VOLUME 17
NUMBER 6

AMAZING STORIES

JUNE 1943

EARTH STEALERS By DON WILCOX

See BACK COVER

AMAZING STORIES

JUNE
25¢

LABORATORY OF THE MIGHTY MITES

By GILBERT RAE SONBERGH

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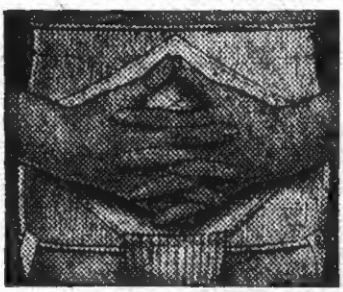

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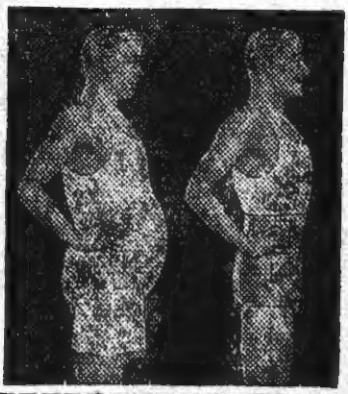

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Front cover painting by Hadden illustrating a scene from "Laboratory Of The Mighty Mites"
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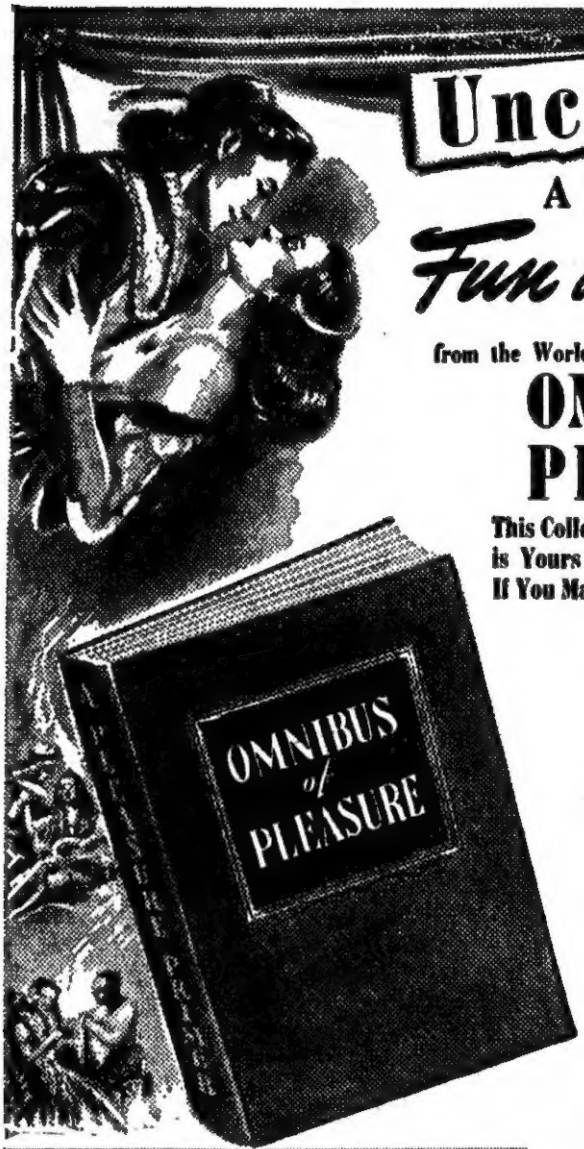

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The OBSERVATORY by THE Editor

A GREAT many of the miracles we see around us today were the science fiction of yesterday. AMAZING STORIES was the first magazine to pioneer in this field, and one of its slogans is "Prophecy today, fact tomorrow." Today's air-war (most recent miracle was the complete destruction of an entire Jap sea armada from the air) was one of the most significant and fruitful prophecies of past science fiction. Much of this prophecy was carried out in stories, but some of it came through editorials, features, illustrations, etc. And much of it was deliberate—the result of an intentional and careful effort at predicting future wonders. We'd like to do it again.

MUCH thought is being given today to the nature of the world of tomorrow. Here's our thought on one angle of it, which we give both as a prediction, and a suggestion. Perhaps we are not original in it, but science fiction's mission always has been two-fold—to entertain, primarily, and to advance new ideas.

AMERICAN solidarity, and later, world solidarity, can be greatly advanced by beginning now to weld the two American continents into a unit that will become a powerful leader toward a future civilization that will stagger our imaginations. Scientific miracles will be accomplished. But to accomplish them to the fullest, we will have to make a beginning.

ZERO will be our final result without that beginning—which brings us to our prophecy, predicated on one inescapable fact . . . *The peoples of the Americas do not understand each other.* The greatest barrier to that super civilization that is to come after the war is *understanding.* We don't speak the same language!

IT WILL come, we say, to the point where the languages of the Latin Americans will not only be taught in our schools, but will be a compulsory subject as elementary as the teaching of English. Let us begin now to learn how to understand our neighbors before we actually move into the "new world" and live with them.

NO BETTER way than that to save years of wasted effort, to learn to like each other, to learn to work together! No better way to begin to draw up the blueprints which will later become the magnificent edifice we will quite possibly call the "golden civilization" science fiction writers have so often glowingly described in their science fiction stories. Put our children on "speaking terms"!

GOOD! good! good! was what one of our readers said about last month's issue. Well, we've slapped together a new issue which we think is as good as last month's—if not better.

STANDING at the head of the list—at least on the contents page—is a new author's story. It's Gilbert Rae Sonbergh's "Laboratory of the Mighty Mites" and for a first sale to our magazine, it's a "mighty mite" indeed. Also, the story is featured on the cover with a painting by Hadden, also first-timing in color for us. We warn you, nothing new about the ideas in this story, but plenty of new treatment. You'll like it a lot. How soon can *you* "see through" the point the author is making?

THE return of Don Wilcox to our pages is marked by "Earth Stealers," a third in the series of which "Battering Rams of Space" proved so popular. The familiar characters you liked so well are back again in a story that will have you standing on your feet and cheering.

ONE of our revealing "asides" can be inserted here. Originally, Malcolm Smith did a cover for this story, and Don wrote the story around it. Then the cover was changed, and Wilcox's "bug" characters added to it. Finally, after much ado, your editor looked the finished cover over and decided it was lousy. So we killed it. However, we didn't want to make you wait for a grand yarn, so we ran it anyway. As a result, you have *two* stories in this issue which were actually intended as *separate* issue features! We hope you like 'em both!

ROBERT MOORE WILLIAMS does one of those increasingly frequent "masterpiece" stories he's been turning out on what he originally

termed a "once a year" schedule. Looks like he'll be doing it once a month! (For about two more months—because Uncle Sam has use for his services in something more important than fiction!) "Pacifist of Hell's Island" is a story with *real* red blood in its veins! Robert Fuqua wanted to do a cover for this one too, but gosh, we only have one cover per issue!

IN "FLIGHT OF THE SIRIUS," P. F. Costello (also leaving for the army this month) gives us a space story which has everything a space story should have. And Robert Fuqua does an interior that is a beauty to fit the story.

EMIL PETAJA'S "Me the People" is the third effort of this lad in our pages, and it shows he has plenty on the ball. Incidentally, his autobiography and picture are in this issue.

SHORT-SHORTS that are really good are rare, but we've got one this time. It's Bob Courtney's little gem "Aid to the Enemy." Ex-marine Krupa does the illustration for it, which is good news to fans in itself.

IT SEEMS a little hard to tie up vitamins with pirates, but Festus Pragnell has done it with his latest Don Hargreaves story "Conspirators of Phobos." The most consistent character to come from England returns again, in spite of Hitler's submarines. You can't sink our Don, Mr. Hitler! He'll be coming over when you're six feet under. He's even come through convoy battles!

SERIAL in two parts "Priestess of the Floating Skull" comes to its conclusion in this issue. Just as the first instalment was illustrated by H. W. McCauley, so is this one—with one change! McCauley recently took some pictures of us out of our desk when we weren't looking and to our amazement, we are now the "villain of the piece." Yes, folks, that's your managing editor torturing that poor gal! And with a monocle in our eye, no less! Trouble is, we *really* look like that. Sorry, you feminine readers, that's the way it is . . .

THE back cover this month is something we want to mention with great care—because we think it is the finest color painting artist Frank R. Paul has ever done! It is part of his new series "Stories of the Stars" and if he can keep up the pace he is setting, he will have created the most popular series we have ever run. So take a squint at it, readers, and see if you don't agree that we're right!

ONE other thing we'd like to mention before we begin to develop some of the plates our Observatory camera has accumulated during the past thirty days is the situation regarding cartoons. Maybe it's the draft, maybe cartoonists have no sense of humor on science fiction subjects. But the fact remains that we haven't a single cartoon in the house, and this feature has been one of the most favorably received in AMAZING STORIES since Gandhi set the style for future ration books! Where, oh where, are you bright readers with clever gags? We'll pay $1.00 a line for gags we can make into cartoons! All of you readers can send us gags. Write 'em on cardboard with a paint brush, if you will, but send 'em. We use gags up to two lines (twenty words).

PEOPLE in love do strange things—here is a case where it gave the dead power over the living. Back in the 14th century a man named Dom Pedro, who was heir to the throne of Portugal, entered into a morganatic marriage with a woman named Inez de Castro. His father, the king, seriously objected to his son's marrying a commoner, especially since he feared the powerful Castro family.

In 1355 Inez was stabbed to death, whereupon the outraged Dom Pedro, suspecting the king, started a rebellion which won him great power in the government. Two years later the old king died and Dom Pedro's first act upon succeeding to the throne was to exhume the body of his murdered wife, place it on a throne, and put a crown on its head. All the noblemen were compelled to honor the dead queen by doing obeisance and kissing her withered hand. This done, Inez, the queen who reigned after death, was ceremoniously interred in a beautiful sarcophagus of white marble!

STOP-WATCH ready? The race is on! Each runner dashes off, circles the track, and strains his whole physical structure in the sprint for the finish line. "Will a record be broken?" spectators ask. Lately one scientist asked himself, "After all, aren't records really dependent upon the timekeeper, the man with the stop-watch?"

How accurately do timekeepers commonly record time with a stop-watch? (The common practice is: when there is no agreement between timekeepers present, the longest time is taken; usually the time reported by the majority of timers is taken otherwise.) In an experiment by E. K. Rumberger this question was answered. He used seven expert timekeepers and four unskilled timekeepers. In over 200 trials he found that the experts' percentage of errors made ranged from 7 percent to 47 percent. (Only errors exceeding 1/5 of a second were counted.) Testing the unskilled timekeepers, he found the range of errors to be from 26 percent to 52 percent. Thus, skill and experience in timekeeping is a powerful factor in judging judges for athletic contests!

All of which makes a good excuse for the fellow who missed breaking a world record by a hair's breadth.

(Continued on page 54)

LABORATORY of the

By GILBERT RAE SONBERGH

"Well, here we are," she said. "All ready for work. Whatever the work will be"

Even if it was the oddest shop in the world, how could such crude work be worth $400 a week? Something fishy here . . .

MIGHTY MITES

WHAT a job! Joe Brent was in full possession of his senses, he told himself morosely, so he knew the time was the present. But the place—that was something else again. Right out of this world.

He reached out and picked up his drink again, sipped it, gazed appreciatively at the kaleidoscopic sky and the orange disc of the sun sinking below the pine-covered peaks.

He shrugged. Why worry? Even in the boom years, he'd never made more than a hundred a week as a machinist. Here he was getting four hundred. Four hundred bucks a week, and the first week on the job they put you on a diet and let you drink all the fine liquor you wanted, let you sit in a palatial glass enclosed porch-prison watching the mountains all day! Porch? It was more like the luxury deck of an ocean liner. Brent hadn't yet explored all the shops, game rooms, tennis courts—inside and—surrounded by a ten foot spiked fence—outside.

So you just sat there ordering free drinks, playing tunes on a classy juke box that handed your nickels back to you, being waited on hand and foot by lovely blondes in short pants. You tried not to worry about the knowing looks your fellow workers cast at you—the fellow workers whose vacations were over and who wouldn't talk to you about what you were going to have to do.

Some of them were knocking off now, coming up from the Shop in their bathrobes. Brent yanked his head at Clancy, a lathe worker. He ambled over, flopped into the chaise-lounge beside Brent.

"Life o' Riley!" Clancy grinned.

"Yeah," Brent agreed. "Except it gives me the jitters, sitting here wondering what the hell it's all about."

"We going to pump them again tonight?" the brunette said, coming up.

Brent grimaced. "I felt fine, just a minute ago." Involuntarily, he drank in the goddess-like vision that was Nadine, who, on the outside, had been a small parts assembler instead of a movie queen.

"I came up here," Brent said gruffly, "to get away from one just like you in a smaller edition. Why don't you run along and find yourself a whole hearted individual somewhere?"

Ignoring the invitation, Nadine drew up a chair. "Because I get a kick out of little guys who Know About Women." She laughed. "But what you came up here for was the dough, brother!"

"And the adventure," Brent said. He felt his face redden; he would tell her, sometime, that short guys didn't like remarks about their size. With exaggerated care, he selected a cigarette from the silver box on the glass-like plastic table. "Now, come on and give out, Clancy. What goes on here? If it's war work, we're all in on it, aren't we?"

Nadine looked troubled. Clancy shifted uneasily in his chair, looked around furtively. A girl came up to their table and they ordered old-fashioneds. When she left, Clancy leaned forward.

"You've been here six days, you two. Tomorrow you'll know all about it. You won't believe your own eyes, like the boss probably told you when he hired you and brought you up here in a closed truck. Me, I don't get it either, all the mystery, since we're prisoners here anyway. But I'll tell you one thing—twice a day, before and after work, *you get gassed!*"

"Nuts," Brent exclaimed. "I thought you were getting serious."

Clancy's eyes widened. "I am serious, you damn fool! That's the truth. You get gassed, then they make you work like hell on a lot of junk that ain't fit for kids to play with. Supposed to be precision machinery—bombsights and that kind of stuff—but I ain't yet done any work closer than one thousandth, and most of it even sloppier!"

NINE a.m. The line of a hundred men, first class skilled workers all, and a handful of girls and women, marched briskly through the long hall under the surveillance of a huge, stooped, moronic looking fellow with a revolver and a bunch of keys. All were barefooted, dressed in identical bathrobes without sleeves. Brent walked behind Nadine. She stepped along like a young panther, he noticed sadly. He wished he were only a few inches taller.

Nadine looked around at him, frightened. Brent had been feeling excited too, but then he laughed. After all, it hadn't killed the others, had it?

The room they filed into was no disappointment. So low that some of the tallest workers had to stoop to stand inside, it had walls, floor, and ceiling of what looked like polished steel. Brent and the others for whom this was the first day of work followed the example of the older hands. They lay flat on the floor, side by side! The panel through which they had entered slid shut behind the last man and left them in near darkness. A ghostly, greenish light diffused through the chamber from a glass slit set in one wall. There was no sound except the rustle of the hundred bodies on the floor.

Brent supported himself on his elbows, tried to see through the gloom. He sniffed. It was gas, all right. Clancy wasn't fooling. With a faintly familiar, sharp scent. He began to feel drowsy and lay back flat. That smell, where had he—then it came to him: nitrous oxide, the stuff . . . dentists . . .

He awoke to the sound of a bell some-

where outside. He opened his eyes and found he could see nothing. The glass slit, it had been shut.

"Nadine?"

She coughed. "I'm right by your side, Shorty— Oh, my gawd!" She gasped. "I have no robe—who took my bathrobe?"

Then a voice like a hundred watts of audio amplifier on a politician's airplane boomed down at them. "THE NEW WORKERS WILL FIND WORKERS' SMOCKS ALONGSIDE THEM. PUT THEM ON AT ONCE AND FOLLOW THE OTHER WORKERS THROUGH THE LIGHTED DOORWAY."

Numbly, Brent felt for his smock, found it, managed to get into it in the darkness. Sure enough, a square hole of light showed up in a wall about a million miles off, and he could see the men walking through it. Somehow they were in a different place from the one where they had been anesthetized. For one thing, it was much larger. For another, he thought as he wiped his forehead, it was a devil of a lot hotter.

"You wanna take my hand, dazzledish?"

Nadine snorted. "Any time!"

"So okay, go fall on your pretty face, then. Just the gentleman in me— As a matter of fact," he added, "I hate all beautiful women."

They approached the hole of light, went through. Brent found himself in what looked like a rather large, well-fitted factory floor. It, too, was a steel room. There were no windows. He looked up to see where the light came from, and gasped. The whole ceiling, yards above his head, was covered with queer clear bulbs, shaped like immense radio-set pilot lamps. Except for a gaping dark hole in the center of the ceiling, in which a curved glass surface glinted like a huge magnifying lens.

"Brent?" A pale, wizened man wearing a green eyeshade touched his arm. He held a loose-leaf notebook in his left hand. "I'm Harkness. Shop Boss. You're to come with me, I'll show you your job." He turned.

Brent followed. Harkness led the way down past lathes, drill presses, milling and boring machines of types Brent had never before laid eyes on. He stopped near the far end of the wood workbench that ran the entire length of the long hall.

"I'm putting you on assembly for a few days. Part 34-A-3. Study the wall chart. I'll be back." Harkness turned and walked off.

JOE BRENT looked around. Men were starting machines, setting up work, and beginning on it as though the end of the world were just around the corner. He whistled softly. Maybe it was war production, but he'd never seen humans work so fast. How the hell could they do a good job? Then he remembered about the tolerances. You could darn near get within one-thousandth on the first, quick cut!

As if it were contagious, the enthusiasm for speed suddenly took hold of him, too. He looked back at the wall chart, of part 34-A-3, a three dimensional drawing with a couple of detail sections. Simple enough! One of the devices lay on the bench, almost as big as he was. He didn't know what it was. Maybe a huge replica of a part of a bombsight, as Clancy had hinted. It looked vaguely like part of a tachometer he had seen once—or almost anything else.

But he could understand, from the blueprint, what pieces went where. Something started to move on the back of the bench and Brent jumped, then smiled. A silent belt-conveyor. He looked along it. It ran the whole length

of the shop, between the bench and the wall, bringing materials in and carrying finished parts out, through dark tunnels at either end.

THOSE first days were a nightmare. A chapter out of Alice and the talking animals. That booming voice, for instance, that seemed to be everywhere but emanated from nowhere, giving pep-talks on the speed-up routine. Reminding them of the high salaries they were being paid; demanding, and getting, superhuman efforts in return. The bench, for another thing. It looked like oak—an unheard of coarse-grained oak—but was as soft as balsa! Harkness warned him against driving tools through it.

Brent made of those first days a sightseeing expedition. Somehow, he felt it was important that he understand and retain the crazy, vivid impressions. Like the size of those parts. Whatever they were, he'd never seen them in any machine, ship, airplane—anywhere. But there was something vaguely familiar about all of them. Like the crude workmanship, for another thing. That was disgusting. After you spent ten years of your life becoming a master machinist, owned your own Johansson Blocks, even, you felt like a fool when you had to spend your eight hours putting together junk that fit with wobbles like Greek ox-cart wheels. The metals the junk was made of, too. They were like nothing Joe Brent had ever worked with before. And that funny light-strong feeling in his body, the feeling that he could jump like a cat if he wanted to! Worst of all, those tools—he could have made better wrenches, micrometers, himself. They were indeed, home-made stuff. Even the big power tools, like the lathes, were sloppy, home-made.

So when they filed back into the dark gas-chamber each night, Joe Brent was glad the nitrous oxide assailed his nostrils. That, at least, was something familiar . . .

THE night of the seventh day, Brent went to his room and dressed quickly. He would talk to Clancy. He couldn't stand much more of this crazy set-up without doing something. It wasn't that it scared him—it just made him mad. He locked his door, went downstairs to the Porch. Clancy was alone at a radio, listening to the war news.

"Clancy, what do you make of that stuff we work on?"

Clancy made him wait until the commentator finished. He snapped the set off. "The way I see it, it's all too big. The thing you're working on—I'll swear it's a Nelson bombsight. But it's a dozen times too big!"

"I know it," Brent said. "Whatever it is, it's too big."

"Well, maybe this idea is screwy, but suppose they have a way of shrinking the whole assembly after we're through with it, you see what I mean? The tolerances, they'd be right then. A thousandth would shrink to a good, close fit," Clancy laughed nervously.

"That idea may not be half as screwy as you think," Brent frowned. "Only one hitch in it, even if the shrinking is possible. They'd get the stuff made faster, but the extra materials used would more than offset the savings in—"

Brent started. He hadn't seen the dark, stooped fellow come up, the nice chap who watched them file in and out of the gas-house. He drew back involuntarily from the staring, expressionless eyes.

Clancy laughed. "Meet the Moron, Blackmer's private errand boy."

The Moron's lips moved. "You

Joseph Brent?"

Joe nodded.

"Come." He turned and shuffled away toward the long hallway. Brent looked at Clancy questioningly. "Better run along," Clancy said. "When the Hawk wants to see you, you see him."

The Moron led the way down past the entrance to the gas chamber, to a massive iron gate across the hallway. Brent watched the Moron take out his keys, select the right one, open the gate. Maybe this fellow was no moron after all. They went through, and the Moron left the gate ajar. Remembering, he whirled. For once, his expression changed, to one of fear. He stepped back to the gate and locked it again.

BLACKMER sat behind a huge mahogany desk smoking a fat, black cigar. He waved Brent to a seat.

"You have too many conversations. Aren't there enough swimming pools here? Why not let yourself have a good time, instead of worrying about a few things you can't figure out?"

Joe Brent laughed. "For one thing, because you're too anxious. What good reason is there for all the secrecy?"

"It's been explained to you that one of the things we give you that very generous pay for is to forget that angle. You've been told that you would understand, when the war is over."

"That doesn't make sense," Joe said. "If you're ever going to let us in on it, why not now? You've got this mountain-top so well guarded a fly couldn't get away. I believe we've got a right to know what all the funny business is for!"

Blackmer frowned. His face clouded. Brent knew now why they called him "The Hawk." He sure looked the part. "I've had other trouble-makers, Brent. Either you decide to lay off, or quit. Do you want to quit now?"

"Do you take us for fools? If we can't leave while we're working for you, how can we quit and go free? I don't believe the guys who 'quit' are still alive!"

The Hawk's eyes shot up. "You, at least, are a fool. You know nothing—absolutely nothing—so you have let your vivid imagination fill out a pure fiction story."

Brent stood up. "Don't be too sure of that. I already know the most important thing of all."

"How very interesting." The Hawk sat back in his chair, folded his arms on his chest. "I suppose you've got it all figured out?" He smiled sardonically.

Brent swallowed. There was no backing down now, but he felt like a fool. What he had figured out was a sheer impossibilty. But it was no more impossible than the only alternative.

"That junk you're turning out is, I decided long ago, either ten or fifteen times bigger than it will be when you deliver it to the government or else we're ten times smaller than any other time, when we're working on it." He saw the Hawk's frown deepen. "Naturally, the crude tools and a hundred other things prove the second theory to be the correct one."

He would have felt better if the Hawk had laughed in his face. But he didn't. Maybe it was true, then, no matter how impossible it seemed. The strangeness of the Shop itself, the peculiar feel of the metals, the tools—you could buy better ones anywhere, but not the relatively tiny ones you needed if your own size was cut down to a matter of inches! Apparently, the process of reduction would work only on people, not on metals, or clothing, even. Everything bore out the theory. And the most weird evidence of all: the

abnormal strength and lightness you felt while you were in the shop.

Brent felt his spine tingle. The way the Hawk was looking at him meant only one thing. He'd been a fool to show his hand. His mind raced—

"You're crazy, Blackmer, if you think you can keep everybody in darkness," Brent said rapidly. "Four or five others have come to this same conclusion. The story is spreading like wildfire." He stopped, holding his breath. If Blackmer believed him, he was safe for the time being.

The Hawk smiled suddenly. "Okay, Brent, you win. What do you expect me to do?"

Brent relaxed. "Nothing, except cut out the mystery. And explain this miracle to us, including what happens to those guys who drop out now and then."

The Hawk bit off the end of a new cigar. "All right. Dr. Coffey will have to do that."

Dr. Coffey. The name clicked vaguely in Brent's mind. "And let us communicate with the outside world. We don't like being held prisoners."

The Hawk frowned again. "Nothing doing. We're producing ten times faster than any other plant of twice this size. Do you realize what would happen if we tried to get the outside world to accept this thing? The religious groups, for instance—"

Brent wondered. Perhaps the Hawk was handing him the straight goods.

"So get back to your job, Brent, and calm yourself."

HE TRIED to, for the next few days. But he didn't trust the Hawk, that much he knew. Well, he could be working on one other angle; every morning, now, he got up early and stood by his open window, breathing deeply of the fresh mountain air, holding his breath, timing it.

He could hold it for three minutes. Good. He looked over the window-sill and instinctively drew back. There was a sheer drop of at least a hundred feet to the jagged rocks below. Part of the prison. You sure were like a rat in a trap when you worked for Blackmer. He let out his air, tried another lungful, then went down to breakfast.

He found a seat next to Nadine in the cafeteria. "Hello, beautiful!"

"I thought you hated beautiful women."

Brent laughed. "Do. Like a moth and a candle flame. If I were only a little taller than you, I'd give you a demonstration."

"Modest, aren't you! You won't get burned here, shorty—you're bad medicine now."

Brent stopped stirring the de-caffeinized coffee. "What you mean?"

"You're persona non grata since the Hawk overhauled you. Why don't you relax and enjoy all this?"

Brent pursed his lips. For an instant, he felt ashamed of himself. Like the others, he had accepted his high-salaried job with the promise not to ask questions "for the duration." Well, he just wasn't built that way—not when the guy who wanted you to trust him was the Hawk!

"I'm not relaxing until I know a couple more things, baby." He grinned maliciously. "For instance, I'm going to find out whether we're in any danger from this gas business. *And,* I'm going to find out who takes our bathrobes off us while we're anesthetized. Wouldn't *you* like to know that?"

Nadine flushed and looked away. That, Brent thought, was a pleasant surprise in this day and age. But she got up, half way through her breakfast, and looked at him furiously. "You can go to hell!"

Sitting there alone made Brent feel

inexplicably sad. There had been such an air of finality in that parting remark. He shrugged. Gals like Nadine Thompson had always been poison to Joe Brent.

He drew deep lungfuls of air on the way to the reduction chamber. He maneuvered to get a position near the sliding panel through which they entered, and lay down. At the first faint trace of the gas, he filled his chest to the bursting point and closed his throat. He could last, he decided, four or five minutes now.

He lay on his side, watching the others get drowsy. He could see Nadine about twenty feet away in the greenish gloom. He let small quantities of air escape from time to time. The minutes dragged. He began to count to himself.

The wall panel slid open. Being near it, Brent felt the draft of relatively fresh air strike his cheek. He exhaled quickly, took a new lungful. A stooping figure was momentarily silhouetted in the entrance. Through eyes opened a thin slit, Brent recognized the Moron! His grotesque appearance was accentuated severely by the funny gas mask. Two more masked figures entered the green murkiness. One was a woman. Brent did not recognize either.

THEY went quickly down the rows of prostrate figures, whipping off the robes in one quick motion, leaving the tiny workers' smocks alongside the unconscious men and women.

Brent expected to look away when the woman came to Nadine. On the other hand, why the hell should he? Then his fists tightened—it wasn't the woman, it was the Moron hovering over Nadine! Brent was ready, instinctively, to jump up and grapple with the grotesque fellow, if— Then he relaxed. After all, Nadine meant nothing to him.

The panel opened again and the three masked figures went out. Brent got another gasp of air. It was not good air, but it was better than the concentrated nitrous oxide. He felt drowsy and fought it off.

The panel closed and something slid also across the green slot in the side wall, darkening the chamber completely. Outside, there was the whine of big generators.

Something stabbed him. Not anywhere on his body, but everywhere at once, like an electric shock. Brent twisted in agony, fought to resist the overwhelming urge to cry out, and lose his air. The pain, which could not be any worse, grew worse. He felt hot, hotter than he ever had been, but he did not perspire.

It was a dry, excruciating heat that seemed to come, not from the surroundings, but from inside his own body. Brent, who was no sissy, involuntarily beat his hands together, clasped them, twisted them frantically, in the superhuman effort to avoid shouting at the top of his lungs.

He reached out then with his left hand, with which he could just touch the steel wall near the entrance panel. He could reach it with the tips of his fingers. Then when he lay down, it was close enough to touch with his elbow! He inched over closer again, ignoring the sharp, all-embracing pain, and lay adjacent to the wall. He felt his lungs heaving in the paroxysm of rebellion against the lack of oxygen. His heart pounded viciously in his throat. That was queer—holding his breath had not caused that. For a moment he thought he must be dying; he knew now why they were so thorough with their examination when they hired you.

He felt the wall receding from his arm, from his fingers. Or, rather, his

fingers receding from the wall. He bit his lips together against the engulfing pain, then had to breathe. In a moment he was unconscious.

ANYTHING that hurt like that must be harmful, Brent considered. Another piece of the puzzle clicked into place in his mind. If nobody left this place alive, the bundles of folding money paid to them were just a joke! Brent wanted to tell someone. He pretended to need a tool from the bench where Clancy worked.

"Listen! I stayed conscious during part of the reduction. It was horrible!"

Clancy spoke out of the side of his mouth. "Kid, why don't you cut it out? How about your end of the bargain? You get paid, don't you?"

"Yeah, but I'd like to get a chance to spend it where it's still recognized, bub. You noticed how the guys who've been here a long time get sort of dopey? And the guys who 'quit.' They—"

Clancy gritted his teeth. "That ain't our business— Lay off me, will you? Can't you get it through your head that—"

Brent felt a hand grip his shoulder. "If it's all the same to you, Brent," Harkness, Shop Boss, said, "get back to your work!"

Sullenly, Brent obeyed. From the walls, that booming voice spoke up: "BRENT WILL REMAIN IN THE SHOP AFTER THE OTHER WORKERS STOP WORK FOR THE DAY."

Joe Brent's skin crawled. *Damn!* Why hadn't he waited until he could have talked to Clancy alone, later! He was really frightened, now. He was mad, scorched, at Clancy. What a big dumb cluck he was, along with all the others. All probably in danger of their lives; for a few hundred bucks a week they'd never collect, they shut up their minds like damned ostriches.

Five o'clock came. Brent trembled slightly as he stood against the bench watching the others file out. This was the way you 'quit.' You stayed. You weren't heard from again. Nadine looked troubled when she passed him. Brent had an idea—a bright one!

He shouted, so all the others could hear: "If I get out of this place alive, I'll get word to you. If I *don't*—" Brent spread his arms wide in a gesture of meaningful futility. The last of them turned and looked back. Brent hoped it had sunk in—on everybody. The panel separating him from the gas chamber slid shut.

He was alone. For a minute, nothing happened. "Well, how about it?" Brent demanded.

No answer. They would be waiting, until the rest of the workers were beyond hearing anything. Then it came, the expressionless voice from everywhere at once: "GET ON THE CONVEYOR BELT NEAR THE EXIT."

Joe flinched. "Suppose I don't feel like it?"

The voice laughed softly. "YOU'LL GET ON IT. DON'T YOU FEEL A GROWING TIGHTNESS AROUND YOUR HEART?"

As a matter of fact, he did. Like earlier, when he had stayed conscious in the reduction chamber. That voice —it was, he decided, the Hawk's voice, but thinly disguised. He turned and got up onto the belt. It carried him slowly into the dark tunnel.

The few seconds it took were an eternity. Soft cloth hangings brushed his face in the darkness. They were, he realized, merely to keep outside light out of the shop.

HE came to where the belt rolled under and felt himself falling. He landed in, or on, something sloping and lost his balance. He caught a whiff of

something strong. For one instant there was a flash of daylight; then something slapped it out with a puff of air and a detonation that hurt his ears. The thing started to move. He braced his arms and legs against the close walls. That smell—he recognized cedar, and a trace of strong tobacco—He was a prisoner in a cigar-box!

He heard a door close. A sickening thud sent him flat on his face, and the box was still. The lid was thrown open and he looked up into the twenty-foot face of the Hawk.

Brent's blood boiled. "You insane pig!" he shouted. "You dirty rotten murderer!" The hopelessness of his situation made Joe Brent furious. The Hawk laughed evilly. Strangely, he thought dimly, he wasn't scared. Just mad and full of hate for the monster overhead. He clambered over the edge of the cigar-box and looked around Blackmer's office, wondering why the Hawk didn't try to stop him.

"For you, it's a fifty foot drop to the floor from the top of my desk." Blackmer laughed, enjoying the spectacle of Brent's helplessness. He wondered if he could play on that, stall for time, though he didn't know just what good time would do him now.

"Your little gag about communication with the workers is nothing," the Hawk laughed. "I will see to it that they hear from you, since no doubts in their minds can be tolerated."

"What are you going to do to me?" Brent demanded.

The Hawk leaned forward. "Same thing I do with others who no longer serve a useful purpose. I convert you to isolated electronic energy. Your mass becomes power for my reduction process, to make up for the inevitable losses. A lovely experience. You will think you are roasting." He smiled.

"Might as well pay us a million dollars a week, eh?"

The Hawk chuckled. "You're very smart, aren't you? Of course, I could let you die first—in your present size you'd have a heart attack in a little while—but I know you'll enjoy the further reduction without anesthetic, eh?"

The door opened. The Hawk whirled. A pale, white-haired man entered. Brent watched, saw the Moron behind him with the revolver nuzzled into the old man's ribs. He saw Brent, scowled. He started to speak.

"Silence!" The Hawk barked. "Halfor, go! Guard the door, outside!"

But Halfor stood transfixed, staring at Brent stupidly. The Hawk stepped forward, struck him cruelly across the eyes. *"Get out!"*

The Moron, his face expressionless, turned and shuffled through the door. He left it ajar. The Hawk went over and pushed it closed.

The old man slumped into a chair, sighed. "Well, what is it this time?"

The Hawk laughed, stepped back to his desk. "Trouble with the workers. You'll have to tell them what I say. But this fellow—"

The Hawk seized Brent and held him up in the palm of his hand. "This fellow is to blame—he figured everything out somehow, Coffey!"

Coffey! Brent remembered. The famous scientist. The atomic power wizard who had disappeared. The man who had made U-235 do tricks.

"I am going to burn him without the gas. He resisted it this morning—he knows how it feels—"

"You're mad, Blackmer, mad! You will be punished for all this!"

BRENT looked at him in surprise. So he wasn't in on this—

"I am becoming a millionaire, am I not?" the Hawk smiled. "Is that madness?"

"He tricked me," Dr. Coffey shouted to Brent. "You were to be used only a month—more than that is harmful—then let go." Brent listened, wondering, hanging on to Blackmer's thumb.

"Enough," Blackmer snarled. He rang for Halfor, put Brent back on the blotter on the desk. "Halfor, take out your gun. Take Dr. Coffey back to his room—until I have time for him!

"Until *I* have time for the great scientist," the Hawk chuckled viciously at his own supreme egotism. "Right now, I have a much more pleasant task."

Reluctantly, it seemed to Brent, Halfor took his eyes from him, turned, marched Dr. Coffey out. He left the door ajar.

Brent screamed. "Listen, you fool! If you wanted money and no danger of what's sure to come, you'd take Coffey's advice. You're so lost in your conceit you don't realize others will find you out as I did!" Brent steeled himself against the desire to look at that door. *It had worked!* The Hawk had stood listening to him, not noticing. Now he relighted his cigar.

"Very amusing," he said drily. "As others discover these things, I will take care of them individually. Like your friend, Clancy. One wrong move and he will join you, in nothingness. You have no idea, what it's like, to become electronic-ionic energy in my tanks. It is like what you started to feel, but a thousand times worse to go the rest of the way—smaller, smaller, smaller—all the way, pff! I use your flesh, to run my machines!" The Hawk, Brent realized, actually thought that was funny.

"The sixty-four dollar question," Brent said; "is *that* what happens to those who 'quit' and the ones who get dopey?"

"Ah, with one or two exceptions. That girl, the Thompson girl you seem to like so much, for instance," the Hawk hissed. "She is extremely attractive, yes—most attractive . . . You know, the trouble with this process of Coffey's is the Will. The Will disappears in the third or fourth month . . . well, I will take this proud beauty at just the right point, you understand?" The Hawk laughed, looked out of the window for an instant.

Brent understood. His blood ran cold. He realized that Nadine did mean something to him—

He had almost forgotten the door. It was now or never. He jumped to the carpet, kept his balance. That part of it was nothing. Like a cat's, his small size meant greater strength, greater resistance. He didn't look back. He heard Blackmer curse, shove his chair back.

Brent was in the hallway, running along close to the moulding. A girl screamed and ran out of his way. He heard Blackmer crashing along behind him, gaining. If he could make it there to the steel gate across the corridor. . . . He looked back for an instant. The Hawk was close behind, towering overhead, gaining on him. In a moment Brent would be crushed under one of those tremendous shoes. The gate—

He could feel his heart, pounding, pounding . . . there was the gate!

With one last leap, he dove through a three inch space between two of the bars, rolled over and over. The Hawk piled up on the other side and lay still.

BRENT got up, bruised. Right here was the panel into the reduction chamber. Not that one. Yes, here was one other door, between the gate and the panel. He saw daylight under it. Only a crack. He lay down on the sill, squeezed. He heard Blackmer moan,

get to his feet. In desperation he shoved himself under the door, caught the under edge on the other side, pulled himself through heedless of skinned knees, back.

He stood up, reeling. He had to go on. Not for himself, but to save the others. The increasing pressure around his heart, up his arms, urged him on. Somehow he had to wreck that machinery. He himself would die—

His eyes darted around that strange room. The wall to the left, of steel, with the hooded slit halfway up, that would be the outside wall of the long reduction chamber. The big cylinders —the tanks of nitrous oxide, next to the wall. The Shop, probably no larger than a suitcase, would be at the far end. On his right he saw a weird system of panels, switches, dials, meters. He looked up and gasped. Overhead, suspended from the ceiling on tremendous insulators, a dozen huge cubical tanks—the energy storage tanks of pure electronic energy—glowed bright red in the deepening twilight that diffused into the vast room from standard windows far ahead of him. He shuddered, realizing that what they contained was the mass, now energy, of the workers who had gone before.

He heard footsteps pass the door behind him. He walked up to the panels, suddenly realizing the futility of doing any real damage with his tiny body. Behind the panels, Brent saw huge tubes, like the ones he had once seen in a broadcasting station, only they must have been ten times larger.

The thing in the center—it seemed like a sort of master control panel, set out from the others. There was a chair in front of it and Brent leaped nimbly to the seat. He reached up and snapped toggle-switches back and forth furiously. Hopelessly. Nothing happened. If he could climb over, get inside—

He seized one of the toggles, pulled himself up to it. Stepping on the rounded end, he reached for the one above. It was just beyond his fingertips! He got a footing on the thin lettered plate between the switch and the panel, reached up again. His fingers brushed the handle of the switch above. And his foot slipped off the switch beneath.

No, it was the lettered indicator plate, it spun loosely—but it was all the same. He fell back into space, clutched wildly at the handle, missed it, hit the edge of the chair seat, fell to the floor.

He lay there, exhausted, battered, bruised.

A key rippled into the lock and the door opened. The Hawk, his cruel face white with fear, pounced on him. Without a word, he snarled and picked Brent up. He went to the green glass slit in the reduction chamber, opened it, threw Brent in savagely, slid the cover back on the opening. Brent landed on his back.

Darkness. Every part of him ached. His heart pounded. His head swam. As in a dream, he heard again the starting whine of the generators. Then, mercifully, he lost consciousness. . . .

Something brought him back. Pain. Mind racking pain seared his soul. That cursed internal heat seared his body. Why couldn't he have remained forever in oblivion. He sighed. Suddenly, he opened his eyes wide in the blackness. Something was stretching tight around him—the worker's smock! He felt his sides, felt the seams burst, the cloth rip.

He was growing larger! Unbelieving, his tortured mind flashed back to his attempt to damage the panel. The plate beneath the switch, it had turned, perhaps caused Blackmer's error. Brent breathed a prayer of thankfulness and lay for an eternity fighting the pain.

He wiped grateful tears from his eyes. He wondered where the Hawk was; who was tending the controls. Or did they have to be tended? He stood up.

And bumped his head on the ceiling!

Stupefied, he reached up and felt it with his hands. On top of the fact that he was alive at all, here he was growing taller than he had ever been. Sudden panic mingled with his elation. What if he couldn't get out, couldn't stop growing?

He felt frantically for the sliding panel to the corridor, and found it. He pushed hard, scratched at it with his fingernails. Hot radio-frequency current seared his hands, but it slid open. He leaped out, into the hall. A livid flash of white flame snapped inside the chamber behind him and the generators died. Brent turned and ran toward the Porch.

HE MET a girl carrying a tray of highballs. She screamed, dropped it. Brent started. He was stark naked. He seized a tablecloth, sending more glassware flying. Out of the corner of his eye, he saw Clancy and others coming up.

"The Moron—is the Moron here?" He knotted the tablecloth at his side.

Clancy's lips moved but he couldn't speak. He pointed. Yes.

Brent nabbed the Moron. "You see me, Halfor? Remember me? I grow bigger, eh?" Halfor's eyes were popping. "Listen! Go get Dr. Coffey, bring him here, you understand? Here!" Halfor nodded without expression. Brent slapped him on the back. Good old Moron!

He turned back to the crowd of fellow workers. He was now as tall as any of them. Taller. He looked for Nadine. She saw him at the same instant, from a distance, screamed: *"Shorty!"*

"I escaped! You see me now? The Hawk is not only monkeying with your size, he's killing every one of you, using up your bodies when you get sluggish, turning you into electrical energy. You can't quit and leave this place, dead *or* alive! You can't ever spend that dough —unless we gang up now and wreck that place, the gas chamber!"

"He's right," Clancy shouted. "Come on; *hey, Rube!*"

They seized metal furniture, broke chairs apart for weapons, grabbed quart bottles of liquor—anything. They descended on the door to the control room, heaved heavy shoulders against it.

The Moron appeared, steering Dr. Coffey with the gun. He unlocked the gate, left it open, brought Dr. Coffey through.

"Good for you, Halfor!" Brent wondered how to get rid of him now, get the revolver away from the scientist's ribs. "Halfor, go find Mr. Blackmer—the Hawk—go shoot him!" Brent laughed.

The Moron turned obediently and trotted off!

The men had broken the door down, and stood staring at the dozen husky men standing now in the control room. The Hawk's own men, because he was standing there behind them. He gave an order. . . .

The fight was catch-as-catch-can. It was a noisy collision of flying fists, of chair legs and oaths, of heavy ash trays sailing through the air. Brent got Dr. Coffey into a corner out of line.

"Can you put this thing permanently out of gear?"

"Better than that. And nothing I'd like better to do!" The white haired scientist seized a screwdriver. "Hold me up on your shoulders."

BRENT did so easily. He pushed and shoved through the melee while

Dr. Coffey drove his screwdriver through the glowing walls of four of the energy tanks hanging from the ceiling. White hot streams hissed and bubbled out of them. "That's enough," Dr. Coffey shouted. "In ten minutes that stuff will eat out bigger holes. It's like the inside of the sun! When enough air gets in, this whole mountain will start to go!"

Brent shuddered. The heat even now blistered his skin. The fight was long since over. Cars and trucks were started up outside, there by the loading platforms, engines racing. Dr. Coffey pressed a button on a panel. A siren wailed somewhere. Bells clanged in the corridors. People Brent had never seen before came running.

"Clancy, where's Nadine?"

Clancy was rubbing an eye. "That son of a dog got away with her before the fight got going."

Brent's skin crawled. He turned and started towards the corridor. Dr. Coffey grabbed his arm. "Wait! Only one way to go now—out!"

Brent twisted himself loose. "Nuts!" He raced towards Blackmer's office, turned the corner, and bumped into the Moron. Halfor was sent sprawling. Brent half jumped, half slid, through the Hawk's office door. The Hawk cringed. He was pulling out desk drawers, stuffing thick packages of currency into a valise. Nadine stood, her face bone-white, in a corner.

"Thanks, we can use that!" Brent grabbed the valise, delivered an uppercut to the jaw in the same breath, sent the Hawk reeling backward, clutching a letter-opener in his right hand. He recovered, started for Brent with the knife. Brent braced himself against the window-sill.

A shot rang out at the door. A look of surprise swept the Hawk's face. He flung his arms wide, and careened neatly out the window to the rocks a hundred feet below.

Brent whistled. He grabbed Nadine and the suitcase in the same motion, carrying both. He motioned to Halfor to follow. Halfor would make an excellent butler, or something.

He struggled back through the hissing heat in the smoky control room out to the loading platforms. Cars were swinging down the curving road. Someone called Brent's name. Clancy and the doctor, sitting in a yellow station wagon. They piled in, Nadine, Halfor, and Brent, and Clancy let her rip down the side of the mountain. Minutes later the sky itself boiled up and the top of the peak was a molten, glowing mass.

"That," said Brent, "was a close call." Modestly, he adjusted the tablecloth about him.

Dr. Coffey was staring at the white-hot mountain top. Tears rolled down his cheeks. He, unwittingly, caused all this, Brent thought.

"The Cultural Lag," Dr. Coffey whispered. "Science gives man the keys to Heaven Itself, and man uses them to unlock a flood of misery!"

Clancy coughed. "I guess we're too far behind science, eh, Doc?"

Everybody laughed. "I'm a little retarded myself," Brent said, "with something I've wanted to do for a long time!" He grinned at Nadine.

HIGH FLYING

ACCORDING to the British Air Ministry, George Reynolds piloted his Spitfire fighter to an altitude of almost 50,000 feet where he attacked a number of Junkers 86 and shot one down.

The attack took place above the battlefields of Africa where the temperature often goes past the 100° mark, yet the pilot said the temperature at 5 miles up was 67° below zero.

This example of heroism is only one of the many showing that Allied airmen will seek the enemy out wherever they may be.

CONSPIRATORS

By FESTUS PRAGNELL

I WISH those admiring Earth fans of Vans Holors, Wrestling Champion of Mars, would stop sending him gifts of boxing gloves. We don't have any use for those things. The only thing I can think of to do with them is to put them in museums among "Weapons used on Earth." And then they look kind of silly, among bombs, machine guns and so on.

I heard two Martians talking about then once.

"Do they use those for fighting?"

"Sure."

"What's inside them?"

"Sawdust, mostly."

"What are they for?"

"So they won't hurt each other."

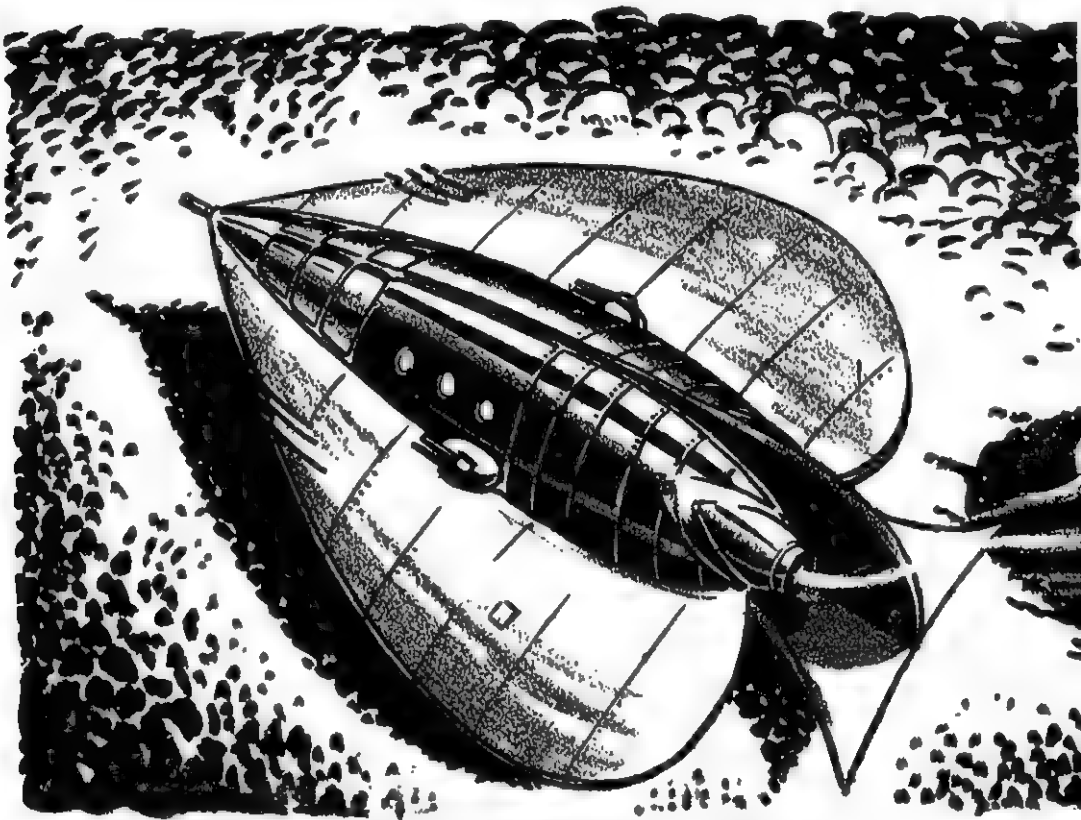
A long silence.

Then, "Eh, are you gone daft?"

"It's true."

"Then what's inside those bombs? Cotton-wool I suppose!"

So I took the gloves out. Now only



We were in a trap; a trap we had made for ourselves

OF PHOBOS

When Don Hargreaves followed a ship to Phobos, he ran into a conspiracy that got him into plenty of trouble. But vitamin C came to his rescue . . .

the women use boxing gloves here.

When I told Vans, he said, "Is there cotton-wool inside bombs?"

I said, "No. It's stuff that goes off bang!"

He thought a minute.

"Daft, I call it," he said.

"What's daft?"

"Having your Earth cities out in the open where anybody can drop stuff on them. Why don't you have them underground, like in Mars, under low cavern roofs, where nobody can drop anything on them?"

It isn't any use arguing with Vans. Trying to get any idea into his thick head is like trying to open a burglar-proof safe with a tooth-pick. I've found that out.

"All the same, Vans," I said, "You can get very fed-up with Martian cities and their everlasting night. You can long for Earth cities with their open skies and daylight."

He laughed.

"Why not take a trip to Phobos, the other moon of Mars. They say the surface is covered with glass bubbles holding air and heat, better even than Deimos. Remember when we went to Deimos?"

"Yes, I remember all right. The place was full of bugs that ate our clothes off us. We went to sleep and woke up naked."

"Nothing like that on Phobos."

"I'd like to go to Phobos then, if I could get away from Wimp for a while."

"Ask her to come. She'd go anywhere for an adventure."

"Yes, I think you're right, Vans."

"Wouldn't I just!" said Wimp, when we asked her. "But aren't you forgetting your responsibilities?"

"How come?"

"Your synthetic fighting man, Bruny Hudells. Your Professor Winterton from Earth says he can't do anything for him, and he's very worried."

THAT sobered us. It was bad about Hudells. I told you about him. He had been the victim of a very dirty plot. As I told you, Prince Grumbold, one of the bad eggs of Mars, had a tame scientist. This scientist made a synthetic body and put the brain of Hudells in it. The idea was to win the championship of Mars from Vans, and bring off a lot of other dirty tricks at the same time. Quite a fuss it was while it lasted, but in the end Hudells, who isn't at all a bad fellow, made up his mind that he didn't want any more of the funny little ways of Prince Grumbold and his Professor, and made friends with us. But there was a certain white powder that Bruny had to have every day to keep him well. And that was where our plans went wrong. Grumbold's other synthetic men got loose, and so busted up his laboratory that we could not find a sample of the powder to analyze. And Grumbold and his Professor got away.

It looked as if Bruny would have to get along without his powder.

Professor Winterton tried to find the answer. Bruny's synthetic body, he said, recovered from the most nasty injuries in a few seconds. That proved it must be brimming full of Vitamin C, or Ascorbic Acid. An ordinary human system can use about an ounce of Vitamin C a year, but more when there are any nasty wounds to mend. Bruny, weighing three tons, would need about sixty ounces a year, normally, but to heal his wounds at the rate they did heal, about six thousand ounces, the Professor reckoned would be needed. The white powder must be just Vitamin C.

But it didn't work.

Bruny began to get aches and pains that told him he needed more of his powder.

"It's no use," he said. "There is only

one way out. I got to find Prince Grumbold and his Professor and make them tell me the secret."

"I reckon," said Wimp firmly, to Vans and me, "we better get cracking."

"We?"

"Yes, we."

"But what can we do?"

"Let us send for Bruny," said Vans. "Hear what he says."

So we sent for Hudells.

CHAPTER II

Weil Hektorum, Martian Detective

VANS HOLORS is a big man. Big enough to get by in most places, anyway. He weighs more than a ton. But the synthetic giant Hudells made him look like a very little shrimp.

Hudells came in and started the ceremonial salute to Princess Wimpolo as the Martian laws lay it down.

"Keep that stuff for when the public are about," says Wimp. "We're in conference now. Sit down."

Hudells sat down, looking dazed. The Martian Kings, Queens, Princes and Princesses he knew had never been like that. Long ago, when Prince Grumbold's father had been ruler of Ossalandok, Grumbold had made a rule that all courtiers coming into his presence must bow nineteen times. One miscounted and bowed one short, and had his nose cut off. Another had his ears cut off for bowing one too many. And really it was the Prince who miscounted, not the courtiers.

And here, in the highest court of Mars, nobody troubled about ceremony. It was enough to drive a simple wrestler daft.

"About this powder of yours," says Wimp.

"Eh, have you got it?" exclaims Hudells, waking up, all eager.

"Well, no. Not yet," says Wimp.

"Oh!"

It was quite sad to see the giant sink back onto the seat again like a toy balloon that somebody has stuck a pin in.

"Something has got to be done about it," says Wimp, looking very determined.

"Yes! Yes! What are you going to do, Princess?"

Hudells could hardly wait to hear her plan.

"Well, er, I thought you could tell us what we could do," says Wimp, looking uncomfortable.

The rubbery face of Hudells became a mile long again.

"Me? No, not me," he said, looking blank. When Hudells was in any difficulty he just hurled his three tons of weight at it. If that did not solve the problem then all he could do was to send for somebody with nimbler body and quicker wits than he had.

And the problem that was worrying us now was no slouch of a problem. We wanted the formula for a certain powder. Only one man, so far as we knew, knew the formula. And he was hiding. Might be anywhere in Mars. Emperor Usulor had already got his police looking for him, but—

"I wonder what the Chief of Police has found out," said Wimp suddenly, beginning to fiddle with the televiev.

"The latest report," I said. . . .

"Keep it." Wimp believed in the personal touch.

In the televiev screen the Chief looked up and saw us.

"What progress?" Wimp asked at once.

"In what matter, Your Highness?"

"Prince Grumbold."

THE Chief tapped his forehead and tried to put on a "Spider-in-his-web" look, like a man who is watching

the moves of hundreds of dangerous criminals all at the same time.

"Grumbold, Grumbold, Grumbold . . . Oh yes! I remember. Dangerous international conspirator. The latest report from the Secret Service about him—"

"Don't trouble," snaps Wimp. "I'll speak to the Secret Service myself.'

The Chief of Police only had time to get ready to look surprised before his face vanished from the screen.

"And what a Secret Service," Wimp muttered. "Three attempts to assassinate me and three kidnappings in a couple of years!"

My wife certainly has had a lively time lately. But I don't think it's quite fair of her to blame her dad's service chiefs. Wimp herself is not always as careful as she should be. And on a planet as full of dangerous criminals as Mars is it is not very difficult for the Heiress to the Throne to find trouble. She behaves like an overgrown schoolgirl. That's my opinion. No staid reliable Princess about her. Always snake-hunting, grotto-exploring, or up to some still sillier game.

And when they had dusted her down and pulled the splinters out of her she didn't seem any the worse for wear.

Anyway, it wasn't long before she had the frontispiece of the Secret Service Chief on the teleview screen. He was a man with a lean face and a long hooked nose that made him seem to be looking round a corner at you. And he had such a cunning look in his eyes that he would have made Sherlock Holmes seem like a schoolboy.

"Aha!" he said, tapping his nose, "there is a considerable traffic in chemicals and machine parts to the port of Novwollo in Kuspilad!"

"What *are* you talking about?" gasped Wimp.

It was said of Weil Hektorum, greatest detective of Mars, that no matter what happened he never looked surprised. It was not true. Hektorum looked surprised then. He seemed unable to believe that anybody, no matter how stupid, could fail to understand his remark.

"Can I be mistaken?" he muttered. "*Don't* you want to trace Prince Grumbold and his bogus Professor?"

"Why, certainly, I do. We do. All of us do. But how in Mars did you know—"

"*Really,* Princess," said Hektorum, with a pained sigh, "you do not give me credit for the most ordinary commonsense. Bruny Hudells was recently called to your suite. What would you, Prince Don and Vans Holors be discussing with him? The prospects for the coming zekolo races, perhaps. But would you ring up the Chief of the Secret Service about that? No. There is only one explanation. You want to know how the search for the white powder is going on. That means you want to find Prince Grumbold. That means you are interested to know of our latest clue. Or, at least, I thought you would be."

"But what had your item of shipping news—"

"*Really!*" Hektorum sighed again. "You are looking for a scientist who uses many strange processes. Obviously he needs supplies of chemicals and machine parts!"

"Say no more," said Wimp. "Don, Bruny, Vans! We are going to Novwollo to find Grumbold."

"Give me a minute or two," said Hektorum, "and I will join you."

HE TOOK a box out of a drawer. It had a cable which he plugged into his power supply. It also had a rubber pad which he moved slowly over his face.

As I watched, the face was changing shape. The bridge of the nose sank and the nose broadened. Lean cheeks became fat ones. Eyebrows wandered upwards.

Then other machines made a sallow complexion look fresh, and turned the black hair green. Green hair on Mars, while uncommon, is not remarkable, but usually goes with poor intelligence. Hektorum now looked like a well-fed but half-witted farmer.

"Ah!" he said. "It be a nuisance, but now I shall have to go to Kuspilad to arrange about that mortgage!"

"How did you do it?" I asked.

"Portable plastic surgery outfit," he explained. "Very useful in my profession. Causes nerve, skin and muscle cells to dry up and shrink, or to absorb moisture and swell, according to the way one turns the handle. Works by deep-heating infra-red rays. It has one drawback. After several days the face begins to return to its natural state. The other rays, which change the chemical composition of the pigments in skin and hair, are too well known in Mars for me to need to explain them. The effects of them, too, wears off in time. But aren't we wasting time?"

CHAPTER III

The Chase

WEIL HEKTORUM was at the Princess's suite in a few minutes. He made Wimp dress in men's clothes and us three in women's clothes. The plastic surgery outfit made some changes in our appearance, although I had some doubt as to whether it was much use trying to disguise the enormous Hudells. Though, I must say, Hektorum did not make such a bad job of it, considering.

His next move seemed to me to spoil it all. He televised the airport and booked reservations in an air-liner for Princess Wimpolo, Vans Holors and me for a journey to Novwollo in the country of Kuspilad.

"Why go under our own names?" I asked.

"We don't," he said.

"Your schemes are too deep for me," I said. "The news that the royal party will be on the liner will be everywhere in an hour."

"Just a normal precaution," he said. "Only our luggage will be on the liner. At the last moment we teleview the Captain telling him to start without us. Will you kindly come with me?"

We slipped out of a back entrance of the palace to a small secret airport. Hektorum's badge got us a quick passage. Then he showed us the queer-looking secret aircraft we were to travel in.

It was as round as an egg, transparent, had a helicopter propeller on top and a small propeller in front, with three landing wheels on telescopic props. Queerest-looking thing I ever saw.

A trusted operative of Martian International Investigators, which was the official name of Usulor's Secret Service, put the message through to the air-liner. The great liner rose in the air out of a big crowd that had gathered to show their loyalty by waving flags and cheering and to whisper "Isn't she getting fat!" Always well-nourished, Wimp was now nearly eleven hundredweight.

The big liner really didn't go awfully fast. There were too many twisty caverns to go through. What we lost on the straight stretches we made up on the bends. So that we kept it pretty well in sight most of the time.

IT WAS an ordinary, dull journey for most of the time. I thought Hek-

torum was being a bit too artful. I could not see the point of all this trickiness. It annoyed me because Wimp had to travel most of the time sitting on the lap of Vans Holors. You see, Bruny Hudells took up most of the room in that flying egg. I'd trust Vans with my life. All the same, there are some Martian customs that I don't really like. Married women sitting in other men's laps is one of them. They saw no harm in it.

So, I was not sorry when we began to get near to the country of Kuspilad. There were some narrow, twisty caverns here. The traffic lights, set in the rocks over our heads, were at "Stop!" The great liner idled, waiting.

Some blunder here, I thought. The royal party should have had right of way. "Aha!" exclaimed Hektorum. "I thought Grumbold would show up!"

What alarmed him I couldn't see, until I noticed a lot of black specks darting out of the rocks at the waiting air-liner. Through the telescope, I saw that they were pterodactyls. Prince Grumbold had a lot of those prehistoric leathery-winged creatures that were extinct on Earth millions of years ago, and that he trained to do all sorts of dirty work for him.

"Don!" said Vans, "There's a fight going on there!"

"But for once, Holors," said Hektorum, firmly, "it is a fight that you will take no part in."

I saw the face of Vans twist in pain. In front of his eyes a fight was happening. And he was not in it. It hurt.

"I should have been on that liner," he growled.

"Me too," said Hudells.

The officials of the air-liner were putting up a good show, seeing what few arms they had and what numbers were against them. Pteros, paralyzed in the air by deathrays, nose dived, men on their backs falling off. But at last the gallant crew was wiped out. No more deathrays stabbed out. Pteros perched on the drifting liner, their riders getting off. The liner turned and went off another way, pteros all around.

"Grumbold thinks you and Don are in the passenger cabins on that liner," Hektorum explained. "Now all we have to do is to follow, and we shall be led to Grumbold's hide-out."

A subtle lad, that Martian detective. I'll say that for him. If I had been managing that affair I would have been in Grumbold's clutches by then. No use saying I wouldn't.

So, Wimp still on the huge lap of Vans Holors, and me on the lap of Wimp, we trailed the stolen liner.

THIS time it was not so easy. When we followed the liner before we had known exactly which way it was going. This time we did not. We did not dare let it out of our sight.

It led us into a wild, lonely cavern. But in the center of the cavern we saw what made our hearts jump. It was a great fat-bellied space ship.

"I must admit I was not prepared for this," Hektorum admitted, losing that "Don't you think I'm clever?" air of his.

We saw the passengers all marched out and looked over. Being so far away, we could not tell whether the conspirators noticed that their birds were not in the net. But soon all went into the space-ship, and the ship itself blasted off.

"Ah!" groaned the detective, "I'm beaten. Well Hektorum outwitted. After this I'll keep bees! My secret air-egg cannot fly in space."

"Beaten?" snapped Wimp. "Nonsense! Get to the nearest observer post. Get the space-ship trailed!"

"Ah yes!" exclaimed Hektorum,

brightening up. "There is a chance after all."

So, we dived for the nearest observer post. Hektorum flashed his badge. He demanded control of the telescopes.

The telescopes of the observers were on the nearly airless surface of Mars, worked by remote control, and relayed their pictures to the astronomers in the interior of Mars by television. By its flaring rocket-jets the escaping spacecraft was soon picked out. Astronomers began figuring with elaborate formulae and slide-rules quite beyond my understanding.

"By its course and the acceleration used," said one at last, "I would say the vessel was heading for Phobos."

"I have reached the same conclusion," nodded another.

"Quite right," agreed a third.

"Indubitably correct," assented the fourth, putting the lid on it.

Phobos! One of the two moons of Mars. Bodies so small that it is only out of politeness to the planet that they are called moons at all.

"I must go to Phobos," said Weil Hektorum.

"You mean, we all go," said Wimp.

"My dear Princess," began Weil, "it is dangerous. I cannot permit."

"*You* cannot permit!" barked Wimp, taking him by the shoulders and beginning to shake. The foolish girl saw an adventure offering and, well, I've told you about her little ways before.

To sum up, a very worried detective was persuaded to take the four of us with him. Otherwise Wimp would have shaken him until his teeth fell out. And the poor fellow could do nothing to defend himself against the Princess Royal of Mars. Neither could the secretly grinning astronomers.

SO, WE roared out of Mars in the Ace of Spades ship. Told you about that ship, didn't I? Captured from the Venusian Pirate, Belangor the Butcher, it was the shape and color of the Ace of Spades. The shape brought the center of gravity well to the rear, making the ship easy to control. Ordinary, cigar-shaped ships are liable to turn somersaults when the rockets start. And, being dull black in color, the ship was practically invisible in the background of space, especially with the white spots painted all over her to look like stars. In the hands of Belangor the Butcher, this sinister vessel had often crept upon the rich space-liners of Venus, rocket-jets shut off, silent and as good as invisible, till the moment came to strike, to leave a stripped shell full of corpses and to vanish once more. I am proud of the fact that Vans and I helped to rob this terror of some of his powers, even if Belangor and his men got away and have still not been rounded up by the Space Patrol of the Elastic Men of Venus.

Now, we used the useful ship with her space-camouflage for our own ends.

Weil Hektorum dashed about, making arrangements for the take-off. I tried to help, but all I got was, "Leave it to me! I can manage!" Conceited fool, I thought.

Hektorum was looking worried when he stopped running around checking stores and fuel. Wondering what he was going to say to old Usulor when he got back, I suppose. Because the Emperor of Mars is an excitable man, and when Wimp gets into danger somebody usually gets into trouble.

I *do* wish Wimp would be more careful.

CHAPTER IV

On the Wrong Foot

ANYWAY, I got the ship into space, Vans pulling any levers that were

too big for me.

"Clear of Mars," I reported. "Give me a course."

"Say that again," said Hektorum, frowning.

"Give me a course. Where are we heading? What way do we go?"

"Go? Why to Phobos, of course."

I could hardly believe my ears.

"Look here, clever boy," I said. "See all that black stuff out there? Black as the darkest Martian cavern? Well, that's space. And all those colored spots in it are stars. Apart from one or two that are planets. That big blue thing is the sun. And that untidy lump of rock is Mars."

"Thanks for the astronomy lesson," said Hektorum, suavely. "Never my strongest subject."

"I'll say it wasn't," I agreed, bitterly. "Can you tell me which of those countless bodies is the tiny world of Phobos? Remember that it shines only by reflected light, so that it may be full, half-full or showing the merest crescent. Also, it may be in the shadow of Mars, or eclipsed. Or it may be behind Mars, or occulted. Or it may be in that part of the sky that we can't look at because of the dazzling light of the sun. And it moves so fast that you must never take your eyes off it. If you do you won't pick it up again."

Hektorum had a look.

"The situation presents unanticipated difficulties," he mumbled.

"Any space-traveler would have anticipated them," I snapped. "Have you no astronomical charts?"

"What are they?"

I groaned.

"But, Don," said Wimp. "There must be charts on the ship. Belangor must have had them."

"All removed by your father's police," I answered. "To help the Venusian Space Police find Belangor."

The pirate and some of his crew, you remember, got away in lifeboats when their ship was captured.

"Some may be left. We'll look."

But none was left. A long, anxious search found nothing.

"Now what's to do?" we asked each other.

"Radio back for directions," I said. "That's all we can do."

"And let Grumbold pick up the message and know we are on his trail! Never!"

"Then what can we do?"

"Give me a telescope," boomed Hektorum. "I'll search for Phobos. May be a crescent or a half circle, you say."

We all began to search. Suddenly Hektorum exclaimed, "I've got it! A distinct crescent."

I looked.

"Unfortunately it happens to be one of Jupiter's moons and bigger than Mars itself."

So we looked some more.

Vans called me at last.

"What is this? Gibbous shape and going fast."

It was. It streaked across the sky so fast that it had to be both small and nearby.

"Hold it, if you can," I said. "I'll plot a course."

IT HAD to be quick work, but I got our ship closer to that satellite, until we could see the glass bubbles on its surface ages ago by Martian engineers. Because the satellites of Mars, are, of course, far too small to hold air without help.

Then the rocket-tubes began to fail.

"Hektorum!" I said, severely, "You've put the wrong fuel on this ship."

Hektorum looked. The gauges told their own tale. Sooting-up!

"A slight miscalculation," he ad-

mitted. "I thought all rocket ships used the same fuel."

I am afraid I snorted rather rudely, "You should have let me fuel her."

Thanks to the extremely light gravity of the Martian moons and the wonderful easy steering ways of that Ace of Spades ship I landed the ship without personal injury to anybody, although I did not do the ship much good. It might have been very nasty. Fancy being headed outwards, away from the Solar System, with practically no usable fuel! A space nightmare. Best not to think about it.

"All the same, mishaps apart," said Hektorum, "at least I have brought you to the hide-out of Grumbold. Perhaps I am not a good astronomer, nor as good a spaceman as our wizard Prince from Earth," he bowed to me, "but at least the detective part of the job has been successful. Let us put on space-suits and explore."

He was clever at putting the best face on things, that detective.

But he was on the wrong foot still.

"When we've made a space-suit big enough for Hudells and one small enough for Don. That'll take several days, unless there are more stores on this vessel than I can find," Wimp said.

"Are you sure we've reached the hide-out of Grumbold?" I asked. "This particular moon happens to be Deimos, not Phobos."

Because I recognized the air-bubbles in which we had had all that trouble with the space-birds when Wimp and I were on our honeymoon. Remember?

"Strange ship overhead," called Vans, at a telescope.

We looked. It was Grumbold's ship. It had been all I could do to land safely on Deimos. I had been unable to keep a proper look-out. Even if I had it would have made no difference.

"No matter," said Hektorum, still trying to make the best of things. "In its camouflage this ship in almost invisible."

"Yes, when it's in space," I said. "Not against the bright coloring of Deimos."

Coming down towards us, from the big ship above, were three space boats. We were in a trap, a trap we had made ourselves.

We looked at each other. Wimp, I could see, was thinking of the fat, conceited Prince Grumbold, who would certainly make love to her if he caught her.

Suddenly she caught hold of Hektorum's broad sleeve. Pulling it up, she uncovered a plump forearm and gave it a stinging slap.

"You *messer!*" she barked.

I had to admire Hektorum's poker face. Not a muscle moved to show his feelings. His face went a bit red, but nobody can help that.

Nor could he control his lachrymal glands. A round, colorless object appeared at the corner of one eye and ran to his mouth. One from the other eye chased it. So did others.

Weil Hektorum was in tears.

THE big ship above kept her guns trained on us. Well-armed pirate ship though ours was, we were helpless. None of our guns could be turned that way. The ship was built for fighting in space, not on the ground.

"How do, Belangor," said our radio, softly so that none could overhear. *"This is a friend speaking. Prince* Grumbold. You may have heard of me."

"Aha!" said Hektorum, perking up surprisingly. "Our identity is mistaken. Now that is quite understandable. We are in Belangor's pirate ship. Belangor may even have another such ship somewhere. He thinks we are the Pirate."

"Obviously," I said.

"We will outwit them yet," said Hektorum. "Princess, will you hide in this cupboard?"

By now the space-boats had landed, and several men, ray-guns hanging carelessly on their arms, were banging on the air-locks.

We let them in.

"Well!" said Prince Grumbold, as he lowered the helmet of his space-suit. "I hardly expected to find three ladies here. What a surprise!"

You know, I had got so used to seeing Vans and Bruny in female clothes and Wimp in men's clothes that I had quite forgotten we were all in disguise.

"Where is your master, Belangor?" went on the fat Prince.

Hektorum collected his wits very quickly.

He opened the cupboard door a little way and called loudly, pretending the door opened into a large room, "Master Belangor! A distinguished visitor is here to greet Your Highness!"

Quietly he whispered, "Come out, Princess. It's safe. He won't recognize you in your disguise."

Wimp came out.

"Well!" said Grumbold, "this is a pleasure! I am happy to meet so famous a space rover! Perhaps we can even be of service to each other. Who are these?" He waved a hand at us.

"Lady friends of mine," said Wimp, trying to talk like a man.

Grumbold looked at us. He understood that, of course. But he must have thought Belangor's lady friends far less good-looking than he would have expected, except for me. And strangely assorted sizes too, from my seven stone to Bruny's three tons. He must have thought the terrible butcher of the space-lanes strangely womanish, too. But he was so feminine himself that perhaps he did not notice it.

"I've often wanted to meet you," gushed Grumbold. "A fine ship this of yours. Wish I had one like it. As good as invisible in space. When I saw rocket-exhausts flaring without being able to see where they come from I could not believe my eyes at first, till I realized it must be you. When you crashed I was almost glad, because it meant we should meet, and perhaps we could team up."

"I can use some help," said Wimp, keeping her voice deep.

Grumbold was on the wrong foot, too.

CHAPTER V

The Vamping of Grumbold

THE fat Prince soon had us all on his own ship. Getting Hudells there was not easy, as Grumbold had no space-suit anywhere near big enough for him, but they managed it by bringing a space lifeboat right into the airlock of the Ace of Spades ship. Me they put into a full-sized suit, and I rattled round in it like a pea in a bucket.

"What's in this? A baby?" I heard them ask as they carried me.

Anyway, they got us aboard somehow, and blasted off to Phobos. Our first train had gone to the wrong station. Now we were going to the right station, but in the wrong train. Proper mess-up.

I got real disgusted with Vans. He entered into the spirit of this sickening affair almost as though he enjoyed it. He seemed to like pretending to be a woman. He grinned and ogled and made eyes at Grumbold. "Isn't he a lovely man?" he gurgled at me. Real disgusting I call it. Anybody less conceited than Prince Grumbold would have got three or more members of his crew to kick the shameless hussy out of the cabin. But Grumbold lapped it all up like a cat lapping up cream. Twice he

disappeared into his wardrobe and came out with more scent and face-paint on him.

"You two seem to be getting on quite well," said Wimp.

"Oh, but Captain, hasn't he got *lovely* eyes!" gurgled Vans. "I hope you are not jealous."

Wimp wrinkled her nose when Vans spoke of "Lovely eyes." For a moment I thought she was going to say something about "swollen-headed, sissy barrel of lard," and spoil everything; but what she did say was, "All right. If you want to leave me and go to the Prince you'd better go right ahead. I guess there are plenty of girls about with better looks and more sense than you. But don't think you can throw me over and then come back to me again afterwards. Because after this I've finished with you, see?"

"Oh, Captain, do you really mean it? Can I really go to the Prince?" Vans exclaimed, clapping his silly hands.

"If he is fool enough to take you," snapped Wimp.

"I am," said Grumbold, grinning a slimy grin. "At least, I mean I'll take the lady."

"Fool enough" was right, because anybody but a fool could have seen that the "lady" was not a "lady" at all, but just about the most muscular he-man in Mars.

"In that case," put in Hektorum, "perhaps we had better get our business talks done as quickly as we can."

"Who are you?" Grumbold asked.

"I am Pirate Belangor's chief assistant, gunnery and ray-expert and left-hand man," Hektorum told him.

"That's right," Wimp backed him up. "I have every confidence in the judgment of Rumkektor," said Wimp, inventing the name in a hurry.

"Then, if we are to team up we must get to work at once."

"What's the hurry?" asked Grumbold. "Plenty of time, isn't there?"

"Your headquarters, Prince, are now on the little world known as Phobos. Am I right?" asked Hektorum, sharply.

That shook Grumbold badly.

"I thought nobody knew that. But I suppose the great Pirate has ways of finding things out?" he stammered, nervously.

"Very many ways, Prince. But in this case we did not need to use our most elaborate secret service system. The information was fairly shouted at us on all sides."

"Was it really?" Grumbold had gone the color of chalk, under his paint.

"I think," Hektorum went on, "that you can expect an attack from the forces of Emperor Usulor in another month."

GRUMBOLD'S color came back. Hektorum had got him scared.

"That gives us time. We have defenses on Phobos—"

"That is exactly what I want to talk to you about. Are your defenses ready? Are they capable of meeting what Usulor will bring against them?"

Grumbold looked weary.

"I leave these things to my assistants. You must see the Professor and the Captain of the Guard."

"Then you will give us authority to inspect the guns and rays and make the necessary alterations?"

"Certainly," said Grumbold, dashing off the necessary papers.

"We thank you. Now, Master Pirate, which would you sooner inspect first, the ground defenses or the defenses of the ship?"

"We haven't got to Phobos yet, you fool," barked Wimp, nearly giving herself away. "I mean, it would be better to inspect the defenses of the ship first.

When we have done that we shall no doubt have reached Phobos. We shall then be able to put on space-suits and look over the defenses on the ground at Phobos itself. Come."

"Charmed," said the Prince, bowing them out. Then he turned to Vans.

"Oh, Prince," said Vans, smiling under lowered eyebrows, "this place is so *public*, don't you think? Couldn't we go somewhere quiet and have a little talk? Somewhere where we are not likely to be disturbed?"

"Oh certainly," said Grumbold, springing for another door. "Certainly, certainly, certainly, certainly, certainly, certainly!"

And, as the make-believe lady gave up her last shred of reputation and went into a man's private room with him, two other make-believe ladies looked at each other.

"That leaves us alone," I said.

"Reckon we better make our inspection of the ship," said Hudells.

"Good idea."

"Yes. But you need not walk. I'll take you."

And he put me in his jacket pocket.

I'VE often asked Vans what happened in the fat Prince's cabin. But he won't tell me. "There are some things too sacred to be shared with one's closest friends," he says. The big fool! But I notice a grin of amusement come into his eyes. Bits of it he has let drop at various times.

For instance, "Oh, you're such a big, *strong* man," said Vans. "My little popsy-wopsy! One whole ton of sheer seduction and charm," said Grumbold.

Grumbold tickled Vans' ribs. Vans dodged in a hurry. One touch and he would have been found out. Because no woman, Martian or Earthling, ever had such steel-hard muscles as Vans Holors.

"Oh Prince! You mustn't!" said Vans, dodging round the room.

Grumbold was soon in full chase.

Vans was playing for time. Presently he felt the space-ship land on Phobos and the rocket-blasts stop. Then he stopped running so fast.

"Oh Prince! I'm breathless! I can't run any more!"

But his eyes smiled a saucy smile of welcome.

"My own charmer!" breathed Grumbold, breathless himself, as he put his arms round her. Then he looked puzzled. This soft, feminine form was hard as iron under his hands.

"Oh Prince, you *are* a one," gurgled Vans, smacking his cheek roguishly.

But to have one's face smacked by the mighty Vans Holors is no joke, even if he is wearing skirts. Grumbold's eyes went dazed. He sank to the floor and lay still, knocked out.

"Well!" said Van Holors, in a shocked voice. "I *do* call that bad manners. Fancy going to sleep while a lady is entertaining you!"

At least, that is what I suppose happened, from what little Vans has told me.

After that this disgraceful lady went from bad to worse. "She" went through the fat Prince's pockets and the drawers of his desk. But what else could one expect from a pirate's moll? It was Grumbold's own fault. He should have kept better company.

Vans was in no hurry. Nobody was likely to come near them for hours. Among other things he found a bottle of choloroform.

Grumbold's stirred just as Vans was studying some very interestering papers.

"What happened?" he mumbled. "Did the ship hit something?"

"Oh no, my poor darling," gushed Vans, rushing to him. "You fell in a

fit. Here, take a sniff of these smelling salts. Make you feel so much better!"

Grumbold sniffed. He couldn't help it. The kerchief was clapped to his face with a grip of steel. The whole universe seemed to swell up like a gigantic soap-bubble, then burst. At least, that is how I felt when I was chloroformed once, and I suppose Grumbold felt the same.

"Dear me! Now he's gone to sleep again. I must have given him the wrong smelling salts. Still, it's such a nice healing sleep he's in. So much nicer than being gagged and bound and shut in a cupboard. When he wakes he won't know himself or where he is. One of Usulor's jails, maybe," babbled Vans.

He arranged the limp form comfortably in bed.

"Looks as innocent as a baby, now. Wonder if I ought to get help?"

HE FIDDLED with the teleview. The Captain of the Guard appeared on the screen.

"Who are you, woman? And what are you doing there?"

"Really, Captain! Perhaps the Prince wouldn't like me to tell you!"

"Where is the Prince?"

"Lying down. He said he had a headache."

"As usual, eh?" muttered the Captain. "Just when we are likely to need him."

"What did you say?" Vans nearly forgot to put on his womanish voice, for once.

"There is likely to be fighting here soon," said the Captain grimly. "And a pack of women crawling all over the place!"

"Oh Captain! You frighten me! Why?"

"A strange space ship has been seen, coming towards us. Oh, well, if the Prince cannot take charge of our defenses I shall have to. There's nobody else. Not the first time I've had to take over. And then got stormed at for an hour on end when the Prince had slept off his drinks."

"Oh dear!" gasped Vans. "Are my friends safe?"

"If you mean," growled the Captain of the Guard, sourly, "the Pirate Belangor, his Chief of Staff, his overgrown sweetie who must weigh at least four tons and the little woman from Earth who isn't much bigger than her thumbnail, they are all right here in the control-room with me now. I only hope the guns the pirate and his chief have been adjusting and correcting will work all right, because we shall be needing them. If all these new ideas don't work out it'll be too bad. And when I teleview the Prince he don't answer. Because he's busy with a lady and drunk too. And how I'm to keep my authority with the men with strangers walking all over the place producing written letters from the Prince saying they can do what they like and nobody must stop them I don't know. If you want my opinion—"

"Dear me, you do have a bad time, don't you?" put in Vans, stopping him at last. "Poor man! Never mind. Perhaps some day you will meet some nice lady and be understood at last."

"Look here!" said the Captain. "None of your trying to vamp me!"

"Oh, I wouldn't dream of it. How could you? Yes, my darling?" Vans went away from the teleview for a moment or so, then came back again.

"The Prince says he wants Mr. Belangor and his three friends to come here to this cabin at once for a Council of War."

"What, all four of them? Hooray! Now I can breathe," said the Captain.

And so the four of us, with no idea what had happened except that Vans was somehow mixed up in it, trooped

to the Prince's cabin.

"What's happened to him?" asked Wimp, seeing Grumbold tucked up in bed.

"He felt tired and wanted to sleep."

"I'm not surprised," said Hektorum. "Get the ventilators going, man. The place stinks of chloroform."

"And now what?" asked the giant Hudells. He did not know what was going on, but was ready to use all his three tons to help us as soon as there was something for him to use his weight on.

"I think I can manage this little matter," said Vans.

He went out of the door and set up a wailing noise.

"Help! Help! Oh do help me!"

Guards ran up.

"What's gone wrong?"

"The poor Prince! He's in a fit! Do something! Get the doctor! Quick! Quick! No, no! You mustn't go in there and disturb him. Get the doctor!"

"He'll alarm the whole ship," I whispered to Hektorum.

"I don't quite know what he's doing," Hektorum murmured. "But let him alone. Never get in the way of the man with the ball, I say. Vans is wrestling champion of Mars, remember, and his ringcraft is very good. So is his fighting judgment."

So, we waited.

AFTER a while, in came the ship's doctor. He looked at Grumbold, sniffed the air, which still smelled of sleep-gas, frowned and asked, "How did it happen?"

"Well," said Vans, "it was like this. He poked me in the ribs like this," Vans poked himself, "then I poked him, then he slapped my face, like this," Vans slapped himself, "then I slapped him like that—Dear me!" Vans caught the falling doctor. "Now you've gone to sleep! What is the use of a doctor who goes to sleep at his work?"

"Just in time," said Hektorum. "He had seen through your disguise and knew you were no woman. A split second more and I'd have put him to sleep myself."

He put the bottle down.

"Smelling-salts for the doctor," said Vans.

"And start the fans up again to blow the smell away," said Hektorum.

"What are we going to do with him? The bed is not really big enough for two."

"Then put him under the bed."

"Now teleview the Captain of the Guard and tell him to come here for a Council of War."

When the Captain of the Guard had been choloroformed,

"What now?" Hudells asked.

Vans started to make out a big paper.

NOTICE.

Prince Grumbold is in a very dangerous fever, and nobody must go into this room on any account without my permission. Failure to obey this order will likely result in the Prince's death, and the culprit will pay the penalty.

"Now," said Vans, "if you can find a copy of the doc's signature among the papers in his pocket and forge his signature to that—"

"My job, I think," said Hektorum.

When I looked at that forgery, well, I wouldn't like to leave my check-book around where that detective was.

So, we went out, pinned the notice on the door, locked the door and took away the key. We found the guards getting worried.

"A strange ship getting nearer every minute. All the guns should be manned.

Nothing is being done. We can't find the Captain and the Prince is sick!" they told us.

"What ship can it be?" I whispered to Hektorum.

"Usulor's," said he. "You don't think I came to Phobos without sending a complete report to the Emperor first? Of course a fully armed ship followed as fast as it could be got ready."

"But there are enough arms here to blow any ship of Usulor's to bits."

"That is why we have to move fast."

To the nervous guards he said, "We'll take charge!"

"Who are you?" they asked.

"This is the famous pirate, Belangor the Butcher. And I am his Chief of Staff," declared Hektorum.

A murmur of relief went round at the famous name. Who would not trust the Terror of the Space-ways?

Hektorum knew just what defenses Grumbold had: those on the ship he had attended to. There was also a fort on the solid ground of Phobos itself.

"Now, all get to your guns," ordered Hektorum. "And do nothing, not even test the guns until I give the order. Anyone who does will have his head cut off. The enemy must not even guess that we are armed until he is too close to have any chance of getting away. Right! Lead us to the fort."

WE WERE led among the beautiful glass bubbles of Phobos to Grumbold's ugly concrete fort, leaving the space-ship behind.

"I want all the staff of the fort to meet in the main hall and hear the orders of Belangor the Butcher. Every man. . . . Are you all here? Every last man? All right, suckers! Reach!"

He said the last bit as grimly as a bad man from an M.G.M. movie. All five of us had swung huge deathrays on the crowd.

"Drop your weapons. Now file into that room."

It was a cell kept for prisoners.

One man tried a break. It was too bad for those round him, as well as himself.

"That will show you I mean business. Get in! And when you are in remember that these rays can still kill through the door."

They piled in. Vans smashed his chloroform bottle on the floor inside just to keep them quiet.

"Now teleview the coming ship. Tell them all big guns and rays are either out of action or captured, and there will be no resistance worth the name."

We were just in time. The Captain, his orders to surrender not being answered, was just about to open fire. Spaceboats crammed with fighting men poured down. Only in a few spots did small groups of men put up a fight with hand ray-guns. In less than an hour the entire tiny world of Phobos had been captured by Usulor's army.

Worst of it was, Prince Grumbold got away after all. Somebody busted in that door and carried him off in a spaceboat that was painted black so that it could not be seen in space. The Prince's tame Professor I reckon. We should have chloroformed that man, too.

Still, one can't have everything. We had not done badly.

"WELL," said old Usulor, when we met in council at the Imperial Palace, "I still can hardly believe that you are my daughter, my son-in-law, my chief detective, Vans Holors and Bruny Hudells, even now that you have got your proper clothes on again. You made a good job of disguising them, Hektorum. I don't wonder Grumbold didn't know them. But how a man like Holors could pass as a woman I cannot under-

stand. You must have had a very good shave that day, Holors."

"Our patent Beard-Suppressor, Your Highness," began Hek.

"Beard-Suppressor!"

"A ray that stuns the hair-cells and stops the hair growing. It also causes the bristles to sink back into the skin. Saves a lot of money in shaving-soap, Your Highness."

"So I should think! I see I shall never be really up-to-date in all these scientific developments!"

"Say!" called Vans suddenly, in alarm.

"What's eating you?"

Vans was anxiously looking at his face in a mirror.

"I hope my face will come back all right again. This girlish shape and these girlish colors you have given it. I wouldn't like it to stay that way."

"Don't worry, Holors. All trace of your disguise will be gone in a month. The same with the others."

"I'm glad of that too," said a gigantic woman, who actually was the giant, Bruny Hudells.

"And now," said Usulor, "now that our two enormous friends are sure they have not lost their faces forever, though why that should worry them I don't know, I can go on with what I was talking about. You haven't done a bad job, Hek. A nasty nest of rebels has been cleaned up, even if the two chief conspirators did get away. But I can't say you looked after my daughter as well as you might have done."

Wimp jumped to her feet at once.

"I like that!" she hooted. "Do you think I am going to stay cooped up on Mars when anything is going on?"

"In future," barked Usulor, "you will stay cooped up and like it! Supposing you got killed!"

"Oh, I will, will I? We'll see!" flared his unruly daughter.

WE ALL knew that Emperor Usulor's orders could make all Mars shake, but when they were addressed to his daughter they were just hot air and a waste of time. Which just shows that a man may be able to rule a whole world but not able to rule one girl.

"I must plead guilty to that," said Hek, sadly. "I had the most awful bad luck."

"I should say so. Getting the wrong fuel on that space-ship was part of it. Not like you to make such a silly blunder." Old Usulor sounded severe.

"Oh, that wasn't a blunder," said Hek, smiling. "That was part of my plan."

"What?"

We all jumped up and faced him.

"Yes. You see, I first pretended to give Grumbold a chance to kidnap the Princess. He took the bait and fell into the trap. Then I tried to get rid of my unwanted assistants and follow him. But they clung to me like leeches. So I fixed it so we would have to land on Deimos, where I figured the Princess would be safe until Grumbold was locked up."

"But," I gasped, "if I had not been able to land on Deimos we would have been stranded in space without fuel!"

"Oh, I had a few cans of the right fuel tucked away, just in case," said Hektorum, calmly.

Wimp's face had been getting redder and redder. Now she jumped to her feet.

"You made a fool of me!" she barked, dashing at Hektorum.

But once again the great detective thought quicker than anybody else. He was out of the door and along the passage in a second.

"Hrrruph!" said Usulor. "As a father I have the greatest respect for a man who can get his own way against my daughter. But since he is absent now,

tell him when you see him that I have decided to confer an Order of Merit on him. . . . Now everything is cleared up, apart from your powder, Hudells. Since the scientist got away we cannot make him give up the secret."

"Oh, that's all right," said Hudells. "When I was running loose in that ship, dressed as a woman, I found a bottle of the powder. Here it is."

Usulor looked at the bottle.

"Looks like salt to me," he said. "Take it along to Professor Winterton. I hope it will work out all right."

Winterton tasted the powder.

"Seems like ordinary Vitamin C to me. Flavored. But we tried that and it didn't work. Strange."

He made some tests.

"Well, I *have* been a fool," he said at last. "Fancy not thinking of that before! This is dextro-rotary Ascorbic Acid!"

"Does it bite?" I asked.

"No, that is exactly what it does not do." And he began a long explanation. This is what I made of it.

Vitamin C, or laevo-rotary Ascorbic Acid, is the cement worker of your body and mine. It cements the cells of flesh and bone together. Without Vitamin C our bodies would just fall apart. With only a little Vitamin C our teeth get loose, our bones break easily and we bruise easily.

Only, that synthetic body Bruny Hudells was using, was put together by left-handed cement workers, or, by Vitamin C that is the mirror image of the Vitamin C that you and I use.

Got it? Well, I can't say I have either, not properly. But, anyway, it worked. Bruny's aches and pains vanished like magic.

So that was that.

Oh, and one more thing. Vans Holors has got a new nickname now. Everybody in Mars calls him "The Vamp"! You should see his face go red with temper about it, too!

★ MIRACLE OF THE EYE ★

CONTRARY to public belief, eye movements across the printed page do not occur smoothly and continuously, nor is our knowledge of objects and their structures obtained by steady fixation upon them.

Careful studies by psychologists have shown that our perception of an object is done by a series of short "views" as the eyes fly across the material presented. There are two types of eye movements, it has been discovered: "jump" movements and "pursuit" movements. The former occur when the eyes move across an object voluntarily (as in studying a painting); the latter occur when the eyes seem to be fixated upon and controlled by the object and move along with it (as in watching a tennis game).

These eye movements have been recorded by means of a photographic device. With the subject seated in a dark room, and position of the head kept constant by means of a head rest, a beam of light is reflected from the cornea upon a moving plate which is sensitive to light and which acts as the fundamental recording device. Focus, or rest points, show up as bright spots on the film, while the intermediate movements are recorded as white streaks. Time mechanisms are often attached to the apparatus to gauge the speed of certain movements.

This type of apparatus has been adopted in studying eye movements of a typical "jump" variety—in reading. It was found that the number of stops or fixations per line (for ordinary subject matter) varied from four to seven. These fixation pauses in reading consume 90 to 95 percent of the total reading time; thus, clear perception during eye movement is practically impossible. The high speed of the "jumps" plus the great amount of time taken by the fixations make this fact understandable.

Why, then, is our visual world not like a patchwork of distinct and spotty images, instead of an organized and coherent whole? First, the things before us "overlap" from one fixation pause to another. Thus, the visual field embraces more than the particular object focused upon. Second, we get "cues" from other sense fields—a complete and meaningful mass of information derived from experience which helps us "size up" each new sight. Thus, when the eye reads across a page of familiar poetry, it need not stop at each word, but can take in just the key points here and there, while the gaps are being filled by previously established associations.

Remember these scientific facts the next time you glance over "The Face on the Barroom Floor" or "Casey at the Bat"!

FLIGHT OF

How can you beat an intelligence corps which fights like hell even to get decoy papers through?

"OF COURSE you realize the necessity of getting this report to Mars."

The speaker, Commander Dexter of the Fifth Space Intelligence Corps, was a slightly built, middle-aged man with impassive features and cool, deceptively mild eyes. He was seated at his desk and he did not raise his eyes as he spoke.

The man to whom his statement had been addressed nodded slowly. He was lean and tall, neatly dressed in civilian clothes, and everything about him, from his neat shoes to his sparse hair, seemed to reflect a cautious, methodical nature.

THE SIRIUS

By P. F. COSTELLO

A shot blasted out, but it wasn't meant to go where it did — in a Martian belly!

"Yes, I understand," he said. His voice was grey and quiet.

"I knew you would, Martin," Commander Dexter said. He glanced down at two identical sheafs of paper on the surface of his desk.

"You will leave tonight for Mars with this report. You will deliver it to the head of our provisional government there, Commander Forsythe. He is expecting you."

He picked one of the sheafs of paper, inspected it carefully and handed it across the desk to Martin. Martin glanced at it briefly and placed it in a black portfolio which he balanced on his knee.

"Is that all, sir?"

"Not quite," Commander Dexter said. "Undoubtedly there will be certain parties most anxious to make sure that you don't reach Mars with that report. For that reason I am sending a decoy to draw their attention from you." He picked up the second sheaf of papers from his desk and tapped it meaningfully. "This report is apparently similar to the one you have, but it is shot full of inaccuracies and falsifications. It won't hurt a bit if it should happen to fall into the wrong hands. In fact it might help; but that's beside the point. The important thing is that you get through with the correct report."

"I understand perfectly," Martin said.

"Good." Commander Dexter smiled faintly as he placed the bogus report in a leather portfolio that was similar to Martin's.

"Who is going to be the decoy?" Martin asked.

Commander Dexter leaned forward and pressed a buzzer on his desk.

"I don't believe you know the man," he said. With a frown he settled back in his chair and thoughtfully rubbed the side of his nose with his index finger. "His name is Blake, John Blake. Everybody calls him Johnny, however. He's that type. He was assigned to me about two months ago, fresh from a training base. I'm convinced he's got a lot of good stuff in him, but he's done nothing so far but get into trouble with his superior officers. He's brash and cocky and conceited; too much so for his own good. He needs a little something to take the starch out of him and I have a hunch that this job might do the trick. He's sure to tangle with Martian Intelligence and that experience may have a sobering effect on him. At least I'm hoping so."

"Isn't it rather dangerous to send a green man on a job like that?" Martin asked.

"I don't think so. The papers he will carry are absolutely without value. When the Martians realize that, as they will soon enough, they'll release young Blake with all sorts of apologies. After all we aren't at war with them yet. In the meantime you'll get through with the necessary papers to Commander Forsythe."

"I'll do my best," Martin said.

"I know. When I give Blake his instructions I want you to take him down to an embarkation tower and personally see that he leaves for Mars. Then you'll return to your quarters and apparently turn in for the night. Sometime after midnight you will be picked up by another member of the staff and taken to a private tower where a fighter ship will be waiting. You will leave then on an uncharted course that will take considerably longer than the regulation commercial routes. But you will gain in secrecy what you may lose in speed. Blake on the obvious course will attract the attention of the highly vigilant Martian agents; allowing you to slip through undetected. That, at least, is

the theory. God help us if it doesn't work."

Commander Dexter leaned forward and jabbed the button on his desk with an irritable finger.

"He should be here now," he said. "I gave my aide instructions to send him in immediately." His jaw line tightened. "The young fool needs a taste of danger to settle him down. He seems to think Intelligence is some sort of a parlor picnic."

THE reception room of the commander's office was furnished with economical efficiency. The gleaming *duralloy* walls were unadorned except for a large chronometer and two bulletin boards, on whose blazed surfaces coded messages from Central Intelligence flashed with unvarying regularity.

At a desk a junior officer worked silently over a report sheet. Occasionally he glanced with a nervous frown at the electrical buzzer which connected to the commander's inner office; the buzzer that had sounded twice in the last five minutes.

He glanced at the single door that led into the reception room and then studied the chronometer on the wall with a worried eye. Finally he shrugged and went back to work.

He had barely focused his eyes on the sheet before him when the door swung open and a tall uniformed young man strode into the room. The new arrival carried his cap in his hand and his bright red hair stuck up like an unruly halo. There was an amiable grin on his face and his grey eyes were lighted with an impish sparkle.

"Greetings, slave," he said good naturedly. "Break the good news to the old man that his brightest young genius awaits without."

The officer at the desk looked coldly at Johnny Blake.

"You are ten minutes late," he said frigidly. "The commander's time is valuable."

"Well, let's don't waste any more of it in idle recriminations," Johnny Blake said, taking a seat on the edge of the desk. "Anyway he probably only wants to give me another dressing down for not saluting some brass hat or other."

There was nothing about Johnny Blake that would distinguish him from any of hundreds of Earth officers, unless it was the grin that hovered continually about his lips and the slightly mocking look that seemed always to flicker in the depths of his eyes. But there was a business-like look to his wide, well-muscled shoulders and his hands were big and capable.

The officer at the desk, with another frown at him, plugged in a connection on the communication panel and, after a pause, said:

"Commander Dexter wishes you to come in immediately."

"Thanks, my little man," Johnny said. He stood up and straightened his crimson tunic. "Now don't work too hard and get writer's cramp," he said with mock seriousness. "We need every man tip-top in times like these."

With a grin he slapped the young man on the shoulder and strode across the room and into the office of Commander Dexter.

"Lieutenant John Blake reporting, sir," he said as he came to attention at the commander's desk and saluted.

"Reporting ten minutes late," Commander Dexter said drily. He nodded to Martin. "I don't believe you know Mr. Martin. He's going to see you off tonight."

Johnny shook hands with Martin and then regarded the commander with puzzled eyes.

"See me off, sir? Am I going someplace?"

"Yes. I have a very important job I want you to do. I'm sending you to Mars with a report to Commander Forsythe."

"Is that all, sir?" Johnny said.

Commander Dexter didn't miss the note of disappointment in Blake's voice.

"Yes," he said drily, "that is all. But it happens to be an extremely vital mission. Do you understand?"

"Yes," Johnny said doubtfully.

COMMANDER DEXTER leaned back in his chair and fixed his mild eyes on Johnny with a peculiarly intent stare.

"You are probably aware," he said, "of the extreme delicacy of relations between Mars and Earth at the present time. This message you are taking to Commander Forsythe contains his orders in the event of a crisis. Naturally our government is hoping that such a crisis will not materialize; but if it does we intend to be prepared for immediate action. These papers must be gotten safely to Mars. I can't overemphasize the importance of this assignment, Lieutenant Blake."

He glanced at his watch. "You will leave immediately. Martin will accompany you to Embarkation Tower 14 where you leave on flight 24:07. Your accommodations have been arranged."

He picked up the black leather portfolio from his desk and handed it to Blake.

"You will deliver this personally to Commander Forsythe."

Johnny took the portfolio and put it under his arm.

"Yes sir," he said.

Martin stood up and shook hands with Commander Dexter. His own portfolio was held carefully in his left hand.

"Good bye, sir," he said. "You'll be hearing from me soon."

"Good luck. And good luck to you, Blake. You're likely to need it."

"Thank you, sir." He hesitated a minute, then said. "If something pops, just how far can I go?"

"What do you mean?"

"Well," Johnny grinned, "if I tangle with any Martian agents do I have to be discreet? Or can I be—er—impolite, if necessary?"

"You have your orders," Commander Dexter said. "Get through to Mars. That should answer your question."

"That's a load off my mind," Johnny said, "If I have to slap any wrists I want to do it with a clear conscience."

Commander Dexter regarded him evenly.

"While I admire your cheerful informality," he said, "I would appreciate it if you add 'sir' when you have something to say to me. Do I make myself clear?"

"Yes, sir," Johnny said emphatically.

But he was grinning as he left the commander's presence with Martin. . . .

THE long hull of the Earth-Mars liner, *Sirius*, stretched for hundreds of feet beyond the rim of its huge propulsion tower, pointing its flared tip toward the vast immensity of space. From the depths of the tower could be heard the rhythmic throbbing of the ship's mighty atomic rocket motors chanting a muffled song of tremendous power. The ship's officers stood at central valve doors awaiting the blast-off signal.

The *Sirius* was ready to leave.

Johnny Blake stood with Martin on the passenger ramp that paralleled the gleaming side of the ship.

"Everything seems set," Martin said. "You'd better go aboard. You have your identification, tickets, everything?"

"Sure thing," Johnny said. He patted a sheaf of papers in his left breast

pocket. "Like a good little messenger boy I'm ready for anything. And thanks for getting my accommodations."

"Not at all," Martin said. He shook Johnny's hand. "Take care of yourself, my boy. And be careful of that portfolio you're carrying. Wouldn't do to lose it, you know."

Johnny grinned and took a firm grip on the leather bag.

"It won't leave my hands," he promised.

"Good," Martin said. "Best of luck."

"Thanks," Johnny said. "And by the way," he added, as Martin started away, "take care of the portfolio you're carrying. Wouldn't do to lose it, you know."

Martin glanced at Johnny with enigmatic eyes but his hands instinctively tightened on the case under his arm.

"Yes," he said quietly, "I shall be careful."

He smiled and walked away; but there was a puzzled uncertain look on his normally impassive face.

Johnny turned and entered the wide doors of the ship. A steward glanced at his ticket and directed him forward to a comfortable compartment that was furnished for six passengers. It was empty when Johnny arrived and he settled himself in a chair beside the port window.

He glanced about the compartment. There were six deep lounge chairs, three on each side of the room. A steel door separated the compartment from the aisle that led forward to the ship's dining- and game-room. Everything looked serene and comfortable.

He tossed his hat onto a rack above his head and lit a cigarette and settled down for the four hour trip to Mars. The black leather portfolio he placed beside him on the chair.

He had been waiting only about five minutes when the door of the compartment opened and two small, smiling Martians entered and seated themselves in two of the lounge chairs opposite him. They were typical specimens of their race; small, effeminate men with a slightly green coloring and pale weird eyes that were constructed without pupils and appeared as opaque discs of gray glass set in the green framework of their faces. These eyes were completely and permanently devoid of any expression; and it was practically impossible to tell at precisely what they were looking.

ONE of the Martians seemed older and stockier than his companion; and that was the only difference that Johnny could notice.

They were both smiling pleasantly at him, displaying small sharp, even teeth. Johnny smiled back with exaggerated friendliness.

The smiles of the Martians broadened.

"I am Arnua," the older one said, bowing deferentially. He indicated his companion with a slight gesture. "My colleague, Zyn-Tor. As we will be traveling together for the next few hours it is only right that we should know one another. It will help to pass the time."

There was a silence in the small compartment following the Martian's introduction. They both were looking expectantly at him, polite little smiles on their faces, as they waited for him to introduce himself. But Johnny had no intention of gratifying their curiosity. Also he felt that an introduction would be superfluous. Unless he was completely wrong they knew quite well who he was.

"Nice to know you both," he said smiling affably. "How're things on Mars these days? I haven't been there

in quite a while."

An expressionless glance passed between the two Martians. Then Arnua, the stocky one, turned to Johnny with polite interest on his face.

"You have been to our planet then?" he asked softly. "Did you find it pleasant?"

"Oh, very," Johnny said quickly. "Wonderful place, Mars."

"I am so glad you think so," Arnua murmured. "Was your trip one of pleasure or business?"

"Strictly pleasure," Johnny said.

"And your present trip?" Arnua persisted. "Is it also one of pleasure?"

Johnny couldn't control an impulse to grin at the little Martian's lack of subtlety. His questions were so apparent that it was amusing. These two Martians were obviously on his trail and they seemed determined to advertise the fact.

"Pleasure?" Johnny smiled. "I don't know—yes. But I've got a hunch it's going to have its pleasant aspects before I'm finished."

"Pardon," Arnua said, "but you are in Army Intelligence?"

Johnny's grin chilled at the edges of his mouth.

He matched the Martian's bluntness. "What's it to you?"

Arnua smiled apologetically and spread his thin hands in a placating gesture.

"I mean no offense," he said. "It is simply that you seem to possess qualities necessary for Intelligence and there is keenness in your face and bearing; my assumption was a natural one, and I am sorry if it disturbed you."

Johnny relaxed. He had been a fool to show annoyance at the Martian's question; but this whole set-up was gradually becoming more irritating. All the pussy-footing and conniving that was necessary in these routine assignments disgusted him. He was essentially a man of action. He would have liked to jerk both these little fawning Martians to their feet and pitch them out of the compartment; but that would never do.

HE PUT the brief case under his arm and stood up. He noticed that a flicker of expression under the Martian's fixed, flat gaze as they stared at the leather portfolio which he held next to his body.

"I'm going up front for a drink," he said.

Aruna laughed softly and his little teeth gleamed under his thin lips.

"You must have important papers in your portfolio."

Johnny paused in the doorway.

"Nothing vital," he said. "Just a few mash notes from a little blonde back on Earth."

"I see," Aruna said, laughing again.

"Glad you do," Johnny said. "I'm a sort of sentimental person, I guess. I'd feel simply terrible if anything happened to those letters. I'd probably forget myself and act pretty nasty if anyone tried to walk off with them. But there's not much chance of anything like that happening on a nice quiet trip like this."

He smiled good-naturedly at the bland little Martians and stepped out of the compartment into the aisle that led to the spacious accommodations in the fore sections of the ship.

As he walked down the gleaming metal-walled aisle there was a tiny frown gathering about his eyes. He was in a rather peculiar spot. He felt quite sure that the two Martians were on his trail; in fact he would have bet his last dollar on it. But he was completely in the dark as to how they were going to proceed. They'd hardly try anything aboard ship, because the *Sirius* was

staffed with officers of the Earth Merchant Marine Corps. They couldn't risk anything violent until they reached Mars. Even then they would be forced to work rather carefully because Mars and Earth were still technically at peace and both planets were anxious to avoid anything in the nature of an overt act; at least until they were ready.

When he reached the main salon he sat down and ordered a drink of mild liquor from one of the hovering stewards. From the seat he had taken he had a view through the vast side windows of the salon into the infinite pressing blackness of the void. Occasionally asteroids flashed past and they appeared as vivid streaks of gleaming brightness before they flashed out of range to continue their trackless, uncharted circuits.

He had hardly noticed the girl who was seated in the next chair, until she leaned forward and said impulsively to him:

"Isn't it absolutely thrilling!"

There was such sincere eagerness in her voice that he was surprised. He glanced at her curiously. She was watching the asteroid-streaked immensity of space with wide-eyed eagerness. Her lips were parted slightly and there was a flush of color in her cheeks.

Johnny noticed then that she was an extremely attractive girl. Her hair was lustrous and dark and in her bright eyes and clear skin there was the imprint of eager, buoyant health.

She was wearing a close-fitting tunic and short skirt that revealed slim lines that were as lithe as a young boy's. But there was complete femininity in the soft column of her throat and roundness of her shoulders.

Johnny experienced a definite quickening of interest.

"Is this your first trip?" he asked as casually as he could.

SHE seemed surprised at his question. She glanced at him and then seemed to realize for the first time that she had spoken impulsively to him. She blushed slightly.

"Yes, it is," she said. "I'm afraid I can't be calm and sophisticated. Everything is so exciting I can hardly believe it."

"You'll get used to it," Johnny grinned. He asked, "What part of Mars are you traveling to?"

"My uncle is in the importing business in Oolano," the girl answered. "That will be my first stop. I'm going to work for him as a secretary. He travels extensively, so I probably won't be permanently settled anywhere."

"Sounds like an interesting job," Johnny said. "Oolano is the first stop on this trip. It happens to be my destination also. With a little luck we might run into each other there."

They talked for the rest of the trip; and Johnny never recalled three hours flitting by so rapidly and pleasantly. Her name he discovered was Nada Thomas and she was twenty-four and had dimples in both cheeks when she smiled. Johnny Blake had not developed his powers of observation for nothing.

When the speed of the *Sirius* was checked by the thundering charges of the fore repulsion rockets Johnny helped Nada to her feet.

"I'm going back to my compartment for a minute," he said, "I'll meet you outside on our loading ramp. We can have a bite to eat before you meet your uncle."

"Sounds wonderful," Nada said. "Don't keep me waiting."

When Johnny reached his compartment he saw that the two Martians had disappeared; but he had the feeling that he would see them both again.

His hands automatically tightened on

the portfolio under his arm. He mustn't let himself forget the job he had to do. He wondered if he were making a mistake in not reporting directly to Commander Forsythe, the head of Intelligence headquarters and delivering the brief case to him.

There was a worried frown on his face as he stood in the center of the compartment considering this. One thing persuaded him not to change his plans. He realized that the Martians would make their play before he got to Intelligence Headquarters, and if he proceeded directly there he would be playing into their hands. If he could shake them now, spend a few hours with Nada in an obscure cafe, his chance of getting to Headquarters would probably be better.

NADA was waiting for him when he reached the loading ramp. A few minutes later, they had passed under the great archway of the vast Space terminal and were walking on one of the upper levels of the Martian metropolis, Oolano.

Oolano was a city of mighty architecture. Buildings soared to immense heights and the transportation of the city streamed through dozens of levels that intersected these structures in even squares. Pneumatic elatubes connected the mile heights between levels, and these tiny cars that carried the human freight of Mars were visible through their transparent tubes, shooting up and down like small bugs on the trellis work of Oolano's architecture.

Johnny squeezed Nada's hand as they stood on a balcony that gave them a panoramic view of the vast sprawling city.

"Does it come up to expectations?" he asked.

Nada sighed. "It's like something from a dream," she whispered.

"Dreams are fine," Johnny said, "but let's try something a little more substantial. Dinner, to be exact."

As he led the girl toward an elatube car he glanced casually over his shoulder. There were several loitering Martians on the level, but none of them seemed particularly interested in him.

The elatube car dropped swiftly with a plummeting motion that caught at their throats. In five seconds it slid to gentle cushioned stop on a level a quarter mile below the one from which they had started.

This level was in the middle of the metropolitan district and was thronged with hurrying crowds. Shops, cafes and theaters cast their lighted advertisements across the translucent sidewalks; and separated from the walks by a thin wire railing was a broad avenue that accommodated the swift atomic runabouts of the Martian leisure classes.

Johnny led Nada into the first small cafe they encountered and found a seat in a dark corner. He sat so that his back was protected by the angle of the walls. He put the brief case on the floor and rested both feet on it.

The cafe was dimly lighted and smoke-filled. From a space radio in a corner soft music from Earth floated into the tiny room.

Johnny ordered food and drink from a bland waiter and lighted Nada's cigarette. Everything seemed perfectly safe and calm.

He was quite sure that he hadn't been followed to this place.

"Like it?" he asked Nada. "It isn't the best Mars has to offer but it's not too bad."

"Oh, it's fine," Nada said. "I'm terribly excited."

Johnny noticed absently that a party of four Martians had come in and had taken a table next to his. But his nerves did not begin to flicker warningly un-

til the table on the other side filled up with four bland, expressionless Martians. None of them so much as glanced at him; and it was this very fact that set him on guard. There was something unnatural in their studied unconcern, their complete absorption in the small menus they held in their hands.

THE music from Earth had been turned up and its volume completely dominated the murmur of conversation and the clink of glasses. Johnny noticed that while both sides were blocked there was still a narrow avenue leading between the two tables to the main door.

As carefully as possible he bent and picked up the brief case from the floor.

He smiled at Nada.

"Smile at me," he said. "Say something, anything at all and laugh."

"But—"

"Please do as I say."

"I don't understand," she said, smiling, "but the least a girl can do is smile for her dinner." She laughed softly.

"Good," Johnny said. "Listen carefully, Nada. We're getting out of here. Right now. Don't ask questions. When I stand up, get to your feet and walk ahead of me to the door leading to the level. Don't stop or look back. And keep your eyes to the front. Do you understand?"

"Yes, I'll do just what you say. But I still don't know what you—"

"Never mind that. I'll explain everything later. Are you ready?"

"Yes."

"Let's go."

Johnny stood up in one lithe motion and stepped around the table. Nada was already on her feet walking about four feet in front of him, head erect and eyes directly front.

From the corners of his eyes Johnny saw the Martians at the table to either side come to their feet. But the unexpected swiftness of his maneuver had caught them napping. He was between their tables before they gained their feet, heading swiftly for the door, catching up to Nada.

He was within a dozen feet of the door when the tiny overhanging lights suddenly flickered out, plunging the room into Stygian blackness. Instantly an excited clamor broke out. A waiter's voice called out questioningly and a woman's tipsy scream cut through the darkness like a gleaming knife.

Johnny hugged the brief case to his side and lunged, stretching out one hand to reach Nada. But he collided instead with a babbling Martian who gasped in drunken terror as Johnny plowed into him. Johnny shoved him aside and plunged through the surging mass of people who were stampeding toward the door.

"Nada," he cried out, "where are you?"

He felt a sudden pressure against his back and a hissing, sibilant voice sounded close to his ear. He tried vainly to turn, but he was too late.

Something hard and heavy slugged into the base of his skull; and a thousand red-hot, dancing lights exploded in his brain. He felt himself falling helplessly forward. The strength was draining from his arms and legs as he plummeted to the floor.

A hand tore at the brief case under his arm. He struggled desperately to keep his grip, but the nausea that flooded him robbed his efforts of strength. The case was ripped from his side and a hard fist smashed into the side of his face.

He fell to the floor, a helpless, limp weight.

FOR an eternity it seemed he lay there too weak to move a muscle. He

didn't quite lose consciousness. He could hear the clamor of the crowd clearly; but it seemed to come from a great distance.

Finally he climbed to his knees, then to his feet and lurched through the crowd to the door. As he broke through to the sidewalk level he saw a huge atomic runabout just drawing away from the curb; and through its transparent metal windows he recognized the smooth expressionless features of Arnua, the Martian he'd met on the *Sirius*.

There couldn't be any mistake. And Arnua's presence could hardly be coincidental. As the runabout flashed away from the curb into the traffic, Johnny's brain instinctively registered the metal identification disc on the rear of the car.

For an instant he stood watching the swiftly moving car and a helpless feeling of despair flooded him. He had muffed things beautifully! He rubbed the aching lump at the base of his skull and cursed himself mercilessly. The brief case, with its vital contents, was in the hands of Martian Intelligence and he was just another guy who wasn't big enough to handle his job. If only he hadn't come here with Nada. The thought of the girl made him wince. He glanced helplessly about as if expecting to find her standing at his side.

What could have happened to her? She had vanished like a wisp of smoke. For several precious seconds Johnny stood irresolutely in the center of the sidewalk. The next move was up to him.

He shook his head and ran both hands through his unruly hair. The fogs of pain were drifting from his head and suddenly he began to feel strength flooding back into his arms and legs. A hard smile that had nothing to do with humor brushed his flat lips; and an unholy light danced fleetingly in the depths of his eyes. Unconsciously his big hands tightened to knuckle-whitened fists.

"All right, my little men," he said softly, "you asked for it."

He might never recover the brief case; it might be too late for that now. But he was going to make an almighty destructive nuisance out of himself before he stopped trying.

His first move was to a communications booth where he contacted Earth Intelligence. He identified himself with his private number to the crisp young voice who answered him.

"Get me the address and name of the party corresponding to this disc," he said, and gave a description of the disc on Arnua's car.

"Yes, sir."

The voice returned a moment later with the information.

"Thanks," Johnny said. He could feel the excited driving beat of his heart in his ears.

"One moment, Lieutenant Blake," the voice continued. "We have been expecting you here for some time. Commander Forsythe wishes to speak to you. Will you wait just a moment please?"

Johnny broke the connection and stepped out of the booth, a grin on his face. He was in no position to talk to the commander right now. If everything went well he could talk to him in a few hours. He glanced at the address he had scribbled on the cuff of his tunic. It wouldn't be long now. . . .

TWENTY minutes later Johnny entered the ground level of a vast building whose superstructure towered a full mile above his head. He wondered fleetingly if the Martian mania for the gigantic was due to their own small statures.

This building was a combination of-

fice, recreation and living center. On its hundreds of floors were the things necessary to supply a man's every possible need.

Johnny took an elatube up almost to the top of the building. He stepped from the car into a wide, quiet, deserted corridor. He walked slowly down this corridor, past a row of doors, every sense alert. He shifted his service automatic to his right pocket and there was a reassuring feel in its solid, competent bulk.

He had walked almost a hundred feet before he came to the door which bore the number that corresponded with the scribbled number on the sleeve of his tunic.

He stopped then. His breathing was slow and even. He glanced up and down the deserted corridor before stepping forward and rapping sharply on the door with his left hand. His right hand was in his pocket.

A minute passed slowly. A minute in which he could feel his worry and nervousness growing like a sold tangible thing inside him. He rapped again, sharply.

There was no feeling of fear, other than the fear that this was a wild-goose chase, that he had plunged blindly off on his own initiative, instead of reporting his failure and letting older heads take over the job he had bungled.

The door opened then, so quietly on its oiled springs that he heard nothing. But he knew then that this was no wild-goose chase.

For Arnua stood in the doorway and there was something sick and trapped in the polite smile he forced across his expressionless features.

"So nice to see you again," he murmured. Whoever he was expecting, the little Martian hadn't been expecting Johnny Blake, and he displayed this in the nervous flutter of his hands and the darting, evasive glance he played over him.

"Yes, it is nice," Johnny said.

He put his hand on the Martian's chest and shoved him back through the doorway; and simultaneously his gun came into view.

"Be a good boy," he said gently.

As Arnua fell back under Johnny's shove his back struck the door, swinging it open and giving Johnny a complete view of the room.

There were three people in the room and his gun moved to cover them automatically. He kicked the door shut behind him. Two Martians were standing by a chair in which the third person sat. Johnny's eyes narrowed to smoky slits as he recognized Nada Thomas.

She stood up uncertainly.

"Johnny—"

HE CUT her off with a wave of his hand. Suddenly he seemed to be seeing clearly for the first time in hours. God! What a blind stupid fool he'd been. The girl had been in on the deal. She had struck up an acquaintance with him and then, like a Judas-goat,* she had led him to the slaughter. There wasn't anything clever about the set-up. It should have been obvious to an eight year old. But it hadn't been to Johnny Blake.

He turned to Arnua.

"There has been a mistake," he said. "By a strange accident a brief case of mine has come into your possession. If you are a smart little boy, you will remember what I told you about my sentimental attachment for the contents of the brief case." His voice was gentle; but his eyes brought a pallor to the Martian's cheeks.

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*Judas-goat. A packing house term for the ram that leads a flock of sheep to slaughter. Hence, one who betrays another under the guise of friendship.—Ed.

"I'm in a slight hurry," Johnny said.

"Of course," Arnua murmured. He bowed slightly. "The mistake was unfortunate. The brief case is on the table in the corner."

Johnny stepped to the table without taking his gun from the Martian. The brief case was there, its lock unbroken. He'd been in time. He put the case under his arm and backed toward the door.

"Thank you so much," he said.

Nada moved impulsively toward him.

"Johnny, please take me with you. I don't understand what's going on here but I want to be with you."

"Sweetly spoken," he murmured. He shifted the gun enough to cover her and when she saw the motion she stopped as if she'd been struck in the mouth.

She stared at him with eyes that seemed like great violet pools in the whiteness of her face.

"Johnny," she whispered. "I—" Her eyes shifted to a point behind him and an expression of terror flashed over her face. The back of her hand flew to her mouth.

"Johnny!" she screamed. "Behind you!"

Johnny smiled wearily.

"Not very flattering," he said. "Do you think I'm gullible enough to fall for the oldest gag in the book?"

"Sorry," a soft voice said in his ear, "but this is not a gag. Will you kindly drop your gun!"

A hard round pressure was at the small of his back.

Johnny lowered his gun slowly. He had been caught completely by surprise. But more surprising than that was the realization that Nada had been telling the truth. She had honestly attempted to warn him.

Arnua was stepping toward him when Johnny suddenly lunged to one side. A gun behind him belched with an angry roar and Johnny had the satisfaction of seeing Arnua stagger backward clutching his stomach, a victim of the bullet that had been intended for him.

He hurled himself to the floor, twisting sideways as he did so. Something roared in his ears and his left shoulder felt as if it had been slugged by a blunt hammer.

The man who had come in behind him was aiming for his second shot when Johnny brought his gun up and shot him squarely in the forehead. When he swung about to cover the two remaining Martians they were standing in statuesque positions of surrender, hands upraised, painfully blank expressions on their faces.

"Relax," he said.

He climbed to his feet with an effort. His left arm was beginning to ache like the devil. Nada came to his side and half-sobbed as she saw the blood on his tunic.

"Johnny, you're hurt."

"Not bad," he said. "Let's go."

He picked up the brief case and opened the door.

"Johnny," Nada said, "these men brought me here after that mix-up in the cafe. I don't understand a thing of what's going on. And for a while you acted like you thought I was one of them."

"Did I?" Johnny smiled. He remembered then her attempt to warn him and he stopped smiling. "I'm sorry, honey, I just made a bum guess. Let's go."

WHEN Johnny entered Commander Forsythe's office twenty minutes later his shoulder had stopped bleeding, but one quarter of his tunic was soaked with blood. His face was paper white and his hair never looked redder.

"Lieutenant Blake reporting, sir," he

said. He saluted and laid the brief case on the desk. "With the compliments of Commander Dexter of the Fifth Space Intelligence, sir."

Commander Forsythe glanced idly at the brief case and then at Johnny.

"You look like you've been in a scrape," he said.

"Yes, sir."

"Line of duty?"

"Yes, sir."

"You might tell me about it," Commander Forsythe suggested drily. He was a small, wiry man with bristling dark hair and his eyes were like snapping black buttons. And as Johnny related what had happened those eyes narrowed down to shiny pin-points.

"You handled yourself well, Blake," he said. "It's a pity such energy couldn't have been used in a more important capacity. You see, my boy, these papers you have brought me are utterly without value. Your mission was simply that of a decoy. An agent by the name of Martin brought the bona fide papers in by private ship an hour or so ago."

The communication disc on his desk blazed red as he finished speaking and, with a nod of apology to Johnny, he snapped on the receiver.

"Yes?"

He listened for an instant and his fists slowly tightened.

"Are you sure?" he demanded. His voice was like the flick of a whip.

When he switched off the set his eyes were blazing; worried lines hacked deep fissures in his face.

"Is anything wrong, sir?"

"Everything's wrong," the commander snapped. "Martin's papers have just been checked. They're completely valueless."

"Naturally, sir," Johnny said. He was beginning to feel more nervous than at any time in the previous ten hours. He took a deep breath.

Commander Forsythe glared at him.

"What do you mean 'naturally'? Martin was supposed to have the actual information we need."

Johnny shifted uncomfortably.

"I know that, sir, but he didn't have it."

"I just told you that much," the commander said impatiently. "I know Martin didn't bring the papers in. But what I want to know is where those papers are now."

"They are on your desk, sir."

"What!" Commander Forsythe's black eyes bored into Johnny like steel drills. He grabbed the brief case and opened it with trembling fingers. He sifted through the reports and then lifted unbelieving eyes to Johnny. "You're right," he said hoarsely. "You're absolutely right. But how did you know?"

Johnny looked straight ahead; but there was the ghost of a grin at the corner of his lips.

"I shifted portfolios with Martin on Earth," he said evenly. "I suspected that I was slated for decoy, sir, and I preferred to carry the mail."

COMMANDER FORSYTHE eyed him incredulously.

"Of all the unmitigated gall," he sputtered weakly. "Do you think you're smarter than the directional board of Intelligence? More capable than an agent like Martin who has been in the service sixteen years?"

"Certainly not more capable," Johnny said, "but considerably luckier, sir."

Commander Forsythe made strangling sounds in his throat.

"Lieutenant Blake," he gasped. "D-dismissed!"

"Yes sir." He saluted smartly, about-faced and headed for the door.

"Lieutenant Blake!"

He turned at the door.

"Yes sir?"

"Get that wound taken care of. Put in a request for a ten day furlough. I'll okay it personally." The commander stood up behind his desk and folded his hands behind his back. "Your conduct has been outrageous, Lieutenant Blake. If we had a dozen men like you on the staff, well," he shook his head and grinned slowly, "I, for one, would be damned glad. Now get out of here."

"Right, sir," Johnny grinned.

He opened the door and walked into the reception room where Nada was waiting for him. She came to his side worriedly.

"Is everything all right?"

Johnny Blake smiled down at her.

"Everything's perfect."

THE END

(Continued from page 7)

ACCORDING to Dr. G. J. Martin of the Warner Institute of Therapeutic Research in New York, a chocolate flavored syrup has been developed that will enable a person to eat leaves, grass and wood without any ill effects. The syrup contains millions of bacteria that are harmless to the body yet help the intestines break down the plant products which the body could not ordinarily digest by itself. The bacteria also converts parts of the grass and wood into vitamin B factors which gives the body a well-balanced ration.

The syrup has already worked when given to animals and is now being tested on humans. It is claimed, moreover, that once the person is given the syrup in daily doses for one month, the bacteria settles in the intestines and permits the person to eat grass, leaves, and wood at any time during the rest of his life. However if the person becomes afflicted with an intestinal disease such as dysentery or typhoid, the germs of these diseases kill the bacteria.

The entire monthly treatment costs only $2.00 and yet it might be the means whereby an American soldier is saved from starvation should he get lost in enemy territory and his food supply be exhausted. Dr. Martin reports that Nazi soldiers are being given a similar treatment to prepare them for the scorched earth welcome they are getting in Russia and on other fronts.

RECENTLY Robert L. Earle, vice president general manager of the Propeller Division of the Curtiss-Wright Corporation, announced that his division had developed a six-bladed dual rotation airplane propeller. It is the first of its kind to be built in which the pitch of the blades is electrically controlled and is especially adaptable for engines developing 2,000 or more horsepower.

The propeller is really two three-blade propellers placed one in front of the other on coaxial shafts which permit one to move in clockwise and the other in counterclockwise directions. Company engineers claim that the new propeller will increase the propeller efficiency by about 5% on planes able to travel 400 m.p.h. or better.

Already the new propellers have been delivered to the Army for use on our fighting planes to make them even better carriers of destruction to the enemy.

FIGURES show that diabetes is on the increase today as compared to the number of cases a generation ago. The reason is a logical one. Sixty years ago, our forebears, when they were born, could count on living only about 38 years; today, we expect the new-born baby to live at least 60 years. Diabetes is increasing because people refuse to die as young as did the brothers and sisters of their grandfathers.

In other words, diabetes is a disease which comes on in adult life rather than among young people. Two-thirds of the cases begin after the age of 40 years; in women the most common year of development is 50, and in men, a few years later. Thus, through the factor of age alone, the average youngster of today will reach the diabetic danger zone and will be exposed to the "law of averages" which, because of Science's efforts in helping human beings live longer, will not affect many more thousands of people.

Ah, Life! Who understands it?

ACCORDING to scientists of the Rockefeller Foundation they can grow sufficient yellow fever virus in one hen's egg to render twenty persons immune from the disease for a period of six years or more. The hen's egg is used because it contains a delicate membrane just under the shell which serves as an ideal breeding spot for the microbes.

When the culture has developed, it is removed, frozen, and diluted in a salt solution. When less than an ounce of this solution is injected, the person is declared immune.

To supply civilian and especially army and navy needs, the Foundation is now producing the

vaccine by mass production. Already the army and navy have been supplied with over 1,900,000 free doses of the vaccine to be used for their fighters in the tropics. Other shipments have gone to places all over the world where yellow fever is likely to break out.

DID you ever look up into the sky on a dark night and see millions and millions of stars? Well, it was just your imagination. Chances are, you saw considerably fewer than twenty-five hundred stars! According to the United States Naval Observatory the number of stars visible to the naked eye is between six and seven thousand. But that includes stars seen from all points on the earth. Inasmuch as only a portion of these stars is sufficiently above the horizon to be seen by an observer, the myriad pinpoints of light he thinks he sees, become a paltry thousand or two.

Such stars are called lucid stars because they are visible to the naked eye. Of course, telescopic stars run into the billions. In fact, man can conceive of no possible limit to the number of stars in the celestial sphere, unless he arbitrarily decides that space is not infinite and there is a limit someplace. But what would be beyond that limit no man could say.

BUS companies have constantly tried to improve their vehicles and their services. It is expected that the latest development in "highway liners" will interest the executives of bus companies.

This is a 117-seat bus . . . with a pivoting nose! The revolutionary design of the liner includes the motor in a four-wheel tractor on the front. The tractor, which operates on a pivot enabling sharp turns, comprises the lower front unit of the bus and is locked to the body with a device that insures instantaneous control. The driver operates the tractor from within the passenger compartment.

The leading advantage of this new design, it can be seen, is the ease of making sharp turns—almost an impossibility for large busses today.

The new bus was designed as a war emergency vehicle—so the tractor-trailer is made mostly of wood in order to conserve critical materials. It is designed to carry more passengers per tire, too, and with its total of ten tires, it carries a sizeable load, of course.

ANYONE who has tried to fill an inside straight in a poker hand knows that the best hands are the hardest to get. That was the intention of the originators of the game. But a little arithmetic discloses that the relative merits of various poker hands show a discrepancy when compared with the actual number of times a given hand will occur. For example, in a five card deal ace high and no pair beats jack high and no pair yet the former is four times as easy to get! The ratio is 503 times an ace high hand will occur to every 127 times a jack high hand will come up.

In another instance the extremely low hand of seven high with no pairs proves to be more difficult to draw than the excellent holding of a flush. Here the ratio is 408 to 510.

Aces up is often a winning hand and beats threes up when the chips are down. Yet the former holding happens twelve times as often as the latter! It must be pointed out, however, that this fact is small consolation to the holder of threes up when he is beaten out by a hand numerically easier to obtain!

WHERE must the origin of sounds be located to be heard most easily?

The development of the "sound cage"—a metal circle supported by uprights joined in a dome—has directed scientists to the solution of problems of sound localization. The subject is blindfolded, seated in the center of the "cake" and sound stimuli (usually clicks of a telegraph snapper) are presented from different points throughout the circledome. By pointing to the origin of the tapping, the subject locates the position of the sound.

Sounds to the right or left are most sharply distinguished. (There is little or no difference between the two.) Sounds directly ahead or directly behind the subject are detected and localized fairly accurately—but better localization is effected when the observer is allowed to turn his head. Worst localization is the result of sounds placed above or below the observer. The sound of an airplane usually results in people craning their necks in every direction—a familiar and dynamic example of the inability of the human hearing mechanism to "anchor" effectively sounds from above.

A FAMILIAR sound in every barnyard is the hen's cackle. Why does a hen cackle after laying an egg?

This characteristic is supposed to have been inherited from the wild jungle fowls of India and the Malay Peninsula which scientists believe were the parents of our domestic chickens. These birds cross readily with common barnyard chickens, and the crow of the cocks resembles that of a young Leghorn rooster, in fact. Many eggs sold in parts of India are laid by tamed or domesticated jungle fowls.

In their wild state, these usually run in small flocks of six or eight—one cock and several hens. When a hen is ready to lay, she steals away from the flock, lays her egg in a concealed nest, and then cackles to attract the attention of her mates which have wandered away in the meantime. In response, the cocks in the neighborhood begin to cackle and the lost hen recognizes her flock by the voice of its leader.

This cackling characteristic has never been bred out of our domesticated fowls. Even in their present state of domestication, it is not uncommon for the roosters in the barnyard to set up a clamor when a hen begins to cackle. *Rap*

AID to the ENEMY

"It's Hugh's voice, all right!" she cried

By

BOB COURTNEY

IT was an amazing story that Mrs. Downs heard on that record played to her in the President's study

THE flashing government stratocar swooped to the landing space atop the Earth Federation Capitol Building. Space-Marine Guards greeted the lone passenger, a worried-looking little woman, courteously, for they had expected her. Mrs. Mary Downs, mother of Space-Lieutenant Hugh Downs, was about to meet the President, by request. It really amounted to a command. The grizzled sergeant conducted her into the heart of the huge building, where he turned her over to the President's First Secretary, in an ante-room.

After a brief wait, Mrs. Downs stood in the study of the great man, trying to maintain her composure under the stern scrutiny of several high-ranking Space-Navy officers. The President rose behind his massive desk, a smile of welcome lighting his usually grave face.

The deep shadows beneath his eyes, and lines of strain showed that the responsibility of Earth's leadership weighed heavily upon him in the present crisis. Not forty-eight hours had elapsed since the vicious, treacherous attack of the Martians had suddenly launched the Third Interplanetary War.

"Please come in, Mrs. Downs, and sit down over here by my desk. There's nothing to be alarmed about. We need your help."

"Thank you, Mr. President. I'll try to help in any way possible."

"As you know, the Martians have attacked our outposts, without warning. I regret deeply the necessity of telling you that your son has been captured, and is now a prisoner at Roalla."

Mrs. Downs' face paled. Her burning gaze asked the question she seemed unable to voice. One frail, blue-veined hand sought to quiet the violent beating of her heart.

"We have," the President continued,

"every reason to believe that he has been well treated and is unharmed."

"Thank God!" Her glance swept the half-circle of quiet, grim faces. "But, how did it happen? I knew he was on Planetoid 97, doing some special research work."

THE large, white-haired man wearing the four rockets of a full Space-Admiral, cleared his throat, gruffly. "Your boy was spared because of the invaluable nature of those experiments to any Power obtaining the results. He was kidnaped by enemy agents, before 97 was so treacherously attacked, and removed to Mars. The colony was wiped out."

"When did it happen?"

"Several Martian cruisers and one of their huge super-space-dreadnaughts appeared off 97 at 14:10 on the 23rd, two days ago, and blasted away without warning."

"You've had word of him, from Mars?" she guessed, bewildered.

"Yes, Mrs. Downs," said the President, gently, "we've had a message. In fact, your son was allowed to speak on the official Tele-audio wave-length this morning."

Mrs. Downs nodded. She knew about space-communicators. The official wave-length was used only between inter-planetary governments. No wonder the news *audio* hadn't mentioned his presence on Mars.

The President pressed a button on his desk. "We are about to play a recording of that message. Please listen —carefully. If you hear any words or phrases which positively identify your son's speech, let us know. This is very important."

A uniformed man entered with an *audivor,* which he rapidly set up on a table near the desk. He fiddled with the dials, and stepped aside.

A sonorous, hissing voice, speaking with a marked Martian accent, filled the room.

"People of Earth—listen to your doom. Our Imperial space-fleet has struck at all of your important outposts. We were prepared to blast your cities to dust, unless your government yields. Now, due to success of a pre-arranged plan, we are ready to carry an even more deadly threat to your planet."

"The treacherous, rotten rats!" muttered one of the space-captains.

The voice droned on, sibilantly. "We have in our possession, one of your space-officers, who is also a brilliant scientist. You know he had just completed experimenting with a new, deadly ore on Planetoid 97—*zularite*. We have persuaded him to join us, and in return for official honors and favor, he has turned the formula over to us. We are now ready to loose his lethal gas on Earth, wiping your population out completely, if you do not yield."

MRS. DOWNS felt her very marrow shrink. Her boy—a traitor! The last of a long line of Downs in the service of their country, betraying the flag! Why, there was even a Downs way back there in the First World War of the Twentieth Century, who commanded an American destroyer, with distinction. Yes, even before that—

Hugh's voice broke in on her horrified thoughts. At least, it sounded like his voice, but strangely apathetic, listless.

"This is Hugh Downs, formerly Space-Lieutenant in the Earth Federation Space-Navy. I am convinced that the glorious Martian Empire should rule all space and all planets."

Mrs. Downs' downcast eyes filled with bitter tears. It was true, then. Her little Hugh, with his sunny smile and flashing blue eyes—a Benedict Ar-

nold of the Thirtieth Century.

"As you know, my seventeenth experimental process was successful in producing a deadly gas, which spreads over unbelievable distances, killing all living things, even penetrating to the depths of the seas. I can not stress this too forcibly—it is this identical gas which I have given freely to my new compatriots.

"A fleet of Martian ships, loosing this horror in Earth's atmosphere, would destroy all life, within minutes after the bombs had burst. No known gas-mask protects the wearers. One whiff —blotto!"

Mrs. Downs sat erect, with a little cry of recognition. Blotto—an ancient slang word that Hugh had picked up from one of his father's dog-eared books from the Twentieth Century. No one else said that!

"It's Hugh, all right!" she cried. Shame drew her whitened head down to her breast again. The tears rolled down her withered cheeks, unchecked, unheeded.

"At present I am a prisoner at Roalla, it is true, but I have been treated very well, and not harmed in any way. When my adopted Empire is victorious, I shall become Governor of Kokkalla Province. I acted as I thought best—without coercion—" The low voice faltered for a moment, then continued, more forcibly. "Heed this warning, and do not act rashly."

THE President nodded, his strong, deep-lined face full of sympathy. He motioned to the technician, who shut off the machine and removed it from the room.

No one spoke, momentarily. The racking sobs of the little, heart-broken mother moved the men, deeply. She fought for control, and raised her head, bravely, expecting to see scorn written on every face. Instead, the President smiled at her, encouragingly. The others looked grimly sympathetic.

"Mrs. Downs," said the President, slowly, "we accept the identification of the voice, without question. We suspected a Martian ruse. Now we know how to proceed."

"Please don't think too harshly of my boy," she pleaded, brokenly. "He's all I have, since his father was lost with the 'Idaho,' off Saturn."

"When this is over, your son will be rewarded as he deserves," said Admiral Newton.

"Does that mean — a heat-ray squad?" she asked, tearfully.

"Mrs. Downs," replied the President, gently, "it happens that the result of the seventeenth experiment was deadly, all right, but it proved very unstable, especially in the presence of one substance. Your son had completed an eighteenth experiment, correcting the faults of the seventeenth."

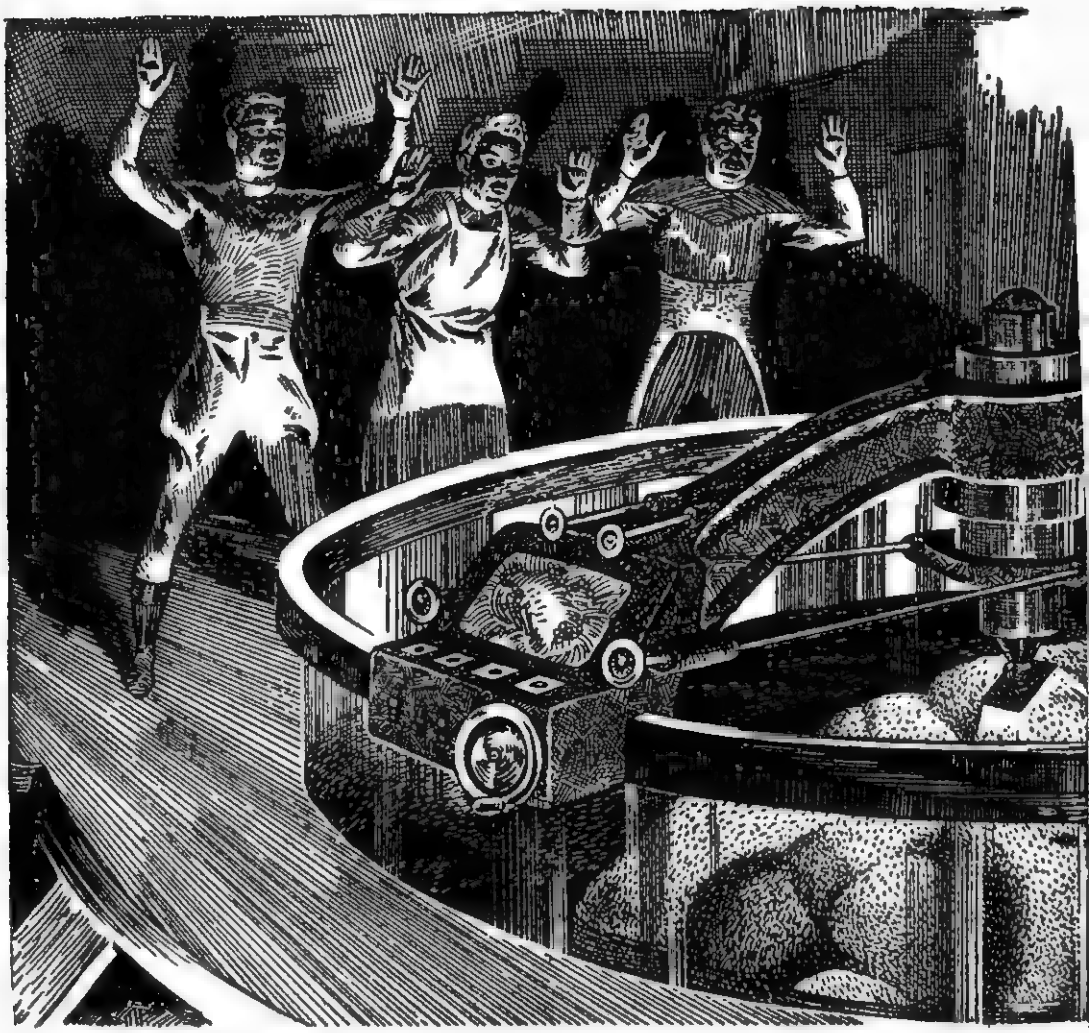
"Oh—I see. But what—?"

"The Martians do not know that. Your son managed to dispatch the eighteenth formula to us, before he was kidnaped. The Martians are using the seventeenth formula, a gas which explodes with great violence after being in the vicinity of *Erotane* for about twenty hours, even though tightly sealed in containers."

A dawning light of hope and pride checked the tears. Could he mean that Hugh was not a traitor, after all?

"Your son merits the highest honors we are able to bestow. The Martians will load their battle fleet with his deadly gas, but will never reach Earth. You see, they use *Erotane* in all Martian ships, as fuel."

FOR THE BEST IN FANTASY FICTION—FANTASTIC ADVENTURES



Lester and June Allison found themselves facing a grave menace to Earth—and once more the famous "battering rams" went into action!

"CALL for Lester Allison! Call for Lester Allison!"

The loud speakers blared through all the New York space port.

Kirk Riley dropped a grease rag and trudged over to the telephone.

"Hello! Headquarters! This is Kirk Riley. Lester Allison hasn't been around. Anything I can do?"

"Some professor from Canada is trying to reach Allison. Will he be in today? This seems to be urgent."

"I'll call his wife."

"Right. And give us a ring right away."

Kirk Riley muttered to himself as he put in the call to Lester Allison's Rocky Mountain resort home. "As if

EARTH STEALERS

By DON WILCOX

"Keep your hands up! Don't make a move!"

every call for Lester Allison wasn't urgent. That's what comes of having a famous name." It was a cinch that there was no space man with such a remarkable record as Allison's. In the realm of solar conquests he and his wife, formerly June O'Neill, were tops.

"The Allison ranch? I want to speak to June Allison. . . . Hello, June. Where's the boss?"

June Allison's voice came over the wire sleepily.

"Who is it? Kirk? You are always disturbing my afternoon nap."

"Just as I thought. Sleeping your afternoons away. Go wake up the boss and tell him there's an urgent call."

"He's not here. He's in Mercury.

Called in last night at four o'clock. That's why I'm walking around in my sleep today. He'll be back in a week—"

"There's some perfessor in Canada that wants him. Can you get the word through? They say it's an emergency."

"If I get through I will call you before four o'clock this afternoon, and if I don't—"

"I know, you will be sound asleep."

Kirk Riley went back to work in a disturbed mood. He found himself absent-mindedly waving the grease rag over the control board of a huge Battering Ram, leaving a dingy smear on the dials.

"Now what could a perfessor in Canada want with Lester Allison?"

Two hours later the low siren at the space port sang out an announcement that a ship was coming in. Kirk watched the dot in the sky as it swelled into a blazing silver disc.

That was the Mercury Special. It nosed down at the west end of the field, and came skimming over like a gigantic bumble-bee. With a low, smooth buzzing it circled to a stop near the shed where Kirk waited.

The space locks flew open. Lester Allison steped briskly down the ramp, pressed a button, and glanced back to make sure the entrance folded back into place. In his silver space suit he was as slender and streamlined as the ship itself, thought Kirk.

"Greetings, grease monkey!" Lester Allison grinned. "What's new on earth?"

Kirk returned the merry greeting, jerking a little as the taller man slapped him on the shoulders. But he braced with importance as he conveyed the news.

"This way to the telephone, my friend. They're hot on the wire to get you. Something has happened up in Canada. Perfessor somebody or other. Here's the number."

Kirk Riley waited as patiently as he could. He was burning up with curiosity.

"Is that so? . . ." Lester Allison's brows knitted with interest. Then—"No, I never heard of such a thing. . . . You say it weighed five tons? . . . Is there any way to preserve it? Pickle it in alcohol or something? . . . Oh, you have. . . . Of course I want to see it. . . . Yes, I will come up this afternoon."

Lester turned to Kirk.

"Get the Red Wing ready. And get out of that monkey suit. You are spinning with me to Canada right away."

"Huh? What the devil—?"

"No time to waste. We will be off in ten minutes."

"You say it weighs five tons and they are pickling it in alcohol? Come on, Allison, give me a hint."

"Oh, sure," said Allison casually. "It's a five-ton brain."

CHAPTER II

A Mountainside of Protoplasm

THE truck wound around the mountain road at a slow speed. Professor Harley Haycox kept mumbling to himself, or if his voice became distinct occasionally, it was to order the driver to look out for that rock or slow down for that bump or take that corner easy. Or honk for that approaching car.

"Pull into the side there, driver. There's not room for us to pass. We will park and let the other fellow swing around us."

"He's stopping, too," the driver growled. "He's coming over."

Professor Haycox leaned out through the door and lifted his spectacles. Sure enough, two figures were approaching on foot, and one of them

waved a greeting. But Professor Haycox was so nervous about his cargo that he imagined these men might be dangerous highwaymen.

"They are stopping us," he whispered hoarsely to the driver. "They might be men from Ubruff's Laboratories. Do you have a gun?"

"Take it easy," said the driver. "They look friendly. Can't you see the grin spread all over that little fellow's face?"

Professor Haycox breathed a little easier and readjusted his spectacles.

"They are little fellows, are they? That's good. If they are from Ubruff's we can handle them. We have got to get back to the Institute with this truck load. It's a million-dollar specimen."

"You've told me that six times already," said the driver.

The taller of the two men called out, "Hello, there, Professor Haycox! I was afraid we had missed you. Where are you going with this big truck?"

"Oh, it's Allison. I didn't suppose you would come out into these mountains."

Professor Haycox ambled down the road to meet the veteran space man.

"It is most remarkable—most remarkable. The world has never seen anything like it. I will tell you the whole story."

"This is my friend, Kirk Riley," Lester interrupted. "I had to bring him along. If there is a mystery involved, Kirk will be sure to give you all the wrong answers."

The Professor acknowledged the introduction and went on with his account. "The call came last Saturday, and everyone in the Institute was sure it must be a fake," said the Professor, and his eyes shone with pride. "But I was determined to investigate. I maintained that it is these unusual and, I might say, unclassifiable phenomena that add the most momentum to our scientific progress. And so I gathered a small expedition of brawny man power—truck drivers, stevedores, and the like, and we set out to the scene of the accident."

"Accident?"

"There was a mangled body across the mountain-side. An old French hermit was an eyewitness to its fall."

"From where?"

"Right out of the skies," he said. "He guessed it to be a twister, it came down in such a cloud of smoke. Then —splash—splash. And there it was. A major catastrophe. With gray colored blood flooding down into the ravines."

"Can we go back to it?" Lester Allison was scowling with skepticism.

Kirk was tugging at his sleeve and nodding eagerly like a schoolboy. But he was disturbed by Lester's apparent refusal to take the story at face value.

"You are doubting it," said the professor. "You are just like all the rest of the Institute. But I have the figures, and I have already arranged for a complete salvaging of the skeletal remains. And if you think it's a fake—"

"If it is a fake," said Allison, "it's the most stupendous thing I ever heard of. Have the reporters got hold of it yet?"

Professor Haycox shook his head. "Everything's under my hat. There's too much rivalry among these scientific laboratories for me to give anything away. Especially between us and the Ubruff's. They have literally stolen discoveries from us. Once they actually resorted to gunfire to beat us out of an anthropological treasure. But we have this brain, pickled, as you say, right in our truck, and by tomorrow I hope to have it under our microscopes."

"Very well," said Lester, "we will go back with you."

"Ah, heck!" said Kirk Riley. "I wanted to see that mountainside where the thing crashed."

"If you want to hoof it, go ahead," Allison suggested. "But I will return with the Professor."

"Go ahead. See you later," said Kirk.

HE STOOD by the cliff's side and watched the car roll away, followed by Professor Haycox's mammoth truck. His curiosity was jumping off on many a tangent, and he wished, among other things, that he were on top of that truck looking down into the big steel tank. However, somewhere down the canyon the scene of the catastrophe waited. He trudged along, and soon gave up the hope of thumbing a ride. This road was little traveled. Perhaps that was the reason Professor Haycox had chosen it. There had been talk of trouble from a rival laboratory, Ubruff's.

Deeper in the canyon he observed the first signs of "the fallen body." No one had said what kind of body it was. From the broken tops of trees, he might have guessed it an astronomical body. But those torn branches appeared to have been sprayed with some sort of gray liquid.

Now he could hear the voices of workmen and see the tops of derricks that were at work hoisting huge objects out of the maze of rocks. These were Professor Haycox's workmen. It was their responsibility to salvage all parts of this mysterious specimen. He approached them cautiously, and for a long time looked on the scene without being observed.

Someone tapped him on the shoulder. He looked up sharply. He had supposed himself well hidden with these jagged rocks.

"Hello, pal. Quite a sight, eh?"

Kirk nodded, studying the newcomer suspiciously. The face was too friendly, the eyes quick and nervous. Perhaps this was only a stray farmer. He was dressed in overalls and a slouch jacket. His shoes belonged in an office—not on a mountain trail.

"Musta been some little job, pickin' up all that mess of jelly," the stranger observed, grinning.

"Did you see it?"

"Well, I was a little late comin' on the scene. They hauled the chief remnant away before I pulled in."

"What was that?" Kirk asked, more suspicious than ever.

"Hell, I don't know what you would call it. It was a big, globe-like affair, seven or eight feet across. It didn't come out of a skull, exactly. Jest a ball of cartilage. Of all the freak animals—"

"It's a freak, all right," Kirk admitted. "It must have been some sort of a flying whale or sea monster."

"No, I don't reckon it was. There weren't no bones to speak of. It was mostly a mass of jelly."

"How much do you think it weighed?" Kirk asked.

The stranger allowed his eyes to run over the scene. The rocks for fifty yards around showed signs of being sprayed with the jelly-like gray substance.

"Hard to guess," the man drawled, "but thirty-five or forty ton wouldn't miss it too far."

The two of them watched in silence for several minutes. It was interesting to see what care the workmen were using salvaging each particle, classifying according to size and structure.

Kirk began to picture in his mind an imaginary creature that was all nerves and flesh—a gigantic jelly fish—that had somehow lived, not only without benefit of bone, but even without any

tough covering of skin.

"Whatever it was," said Kirk, "it could not have lived in this world."

"What do you mean?"

"It fell, didn't it? Well, then, it came from some other planet. Don't ask me why or how. But you can see for yourself that a creature of that kind could not have bumped up against the tough elements in our world."

Kirk was so well satisfied with his observation that he rose and started off. He would go to Lester Allison, tell him of these things.

The tall, overalled stranger tagged after him. "Goin' down the trail, buddy?"

"Up the trail," Kirk retorted. "See you again."

"I'm goin' up the trail, too. My name's Kite—Bill Kite."

Privately, Kirk wished that Kite would fly on his own way, for as the two of them climbed up the mountainside together, Kite's coat would fall open just enough to reveal a letter in the inside pocket—a letter which bore the letterhead of Ubruff's Laboratories.

"What do you think," Bill Kite asked, continuing his not-too-natural drawl, "that those fellows are going to do with the brain they salvaged?"

"Grind it up for chicken feed," said Kirk. "Lovely day, ain't it? Do you have long summers in this part of Canada?"

CHAPTER III

A Hardboiled Brain Expert

WHEN Kirk parted company with the mysterious Bill Kite he took the trouble to check up. Kite had been left at a filling station on the edge of a mountain village. Kirk had gone over to the general store, and then had ducked back to see what Kite was up to. The latter was telephoning.

"Ubruff's Laboratories? I want to talk to Ubruff himself. . . . But this is urgent! . . . I don't care where he is—get him on. . . . Hello, Ubruff. That rumor was on the level. . . . Yes, there was enough of a specimen that they have got a whole crew on the job. . . . The brain? Yes, I got there in time for a glimpse. They trucked it away. . . . But I couldn't. I'm no one-man army. Besides, I was on foot. . . . Where? At the laboratory, I suppose. . . . Sure. . . . Tell them to meet me here—at Benton Ridge. And bring plenty of firearms."

Kirk Riley felt his pulse give a quick jump. He was not sure what he was going to do—he would not be sure until he had done it. That was Kirk's way—act first and figure it out afterward.

Ten minutes later, along a little path that led down to a mountain spring, Kirk finished knotting the ropes around Kite's wrists and ankles.

"Lucky I bumped into you again," Kirk said dryly. "Better get a piece of beefsteak over that black eye. And don't worry if you have to spend the night right here. The summers are warm in this part of Canada."

"I'll get you for this, you and your devilish tribe. I'll—"

"Don't forget your mountaineer accent," Kirk advised. "See you later."

With good fortune Kirk walked only two miles before he got a ride that sailed him right into the laboratory of Professor Haycox.

The echoes of his footsteps over the cool concrete floor resounded. The two figures on the elevated platform above the vat turned to give him a casual glance.

"Come on," Lester agreed, and he reassured the professor. "It's only my

good man Friday."

Kirk mounted the ladder, and for the next hour he watched, over the shoulders of these two scientists, listening to their strange discussion of the mysteries underneath their telescopes. Much of the talk went over his head—speculations over rates of metabolisms, compositions of various types of living cells, physiological systems of feeding, and elimination of waste. In every respect the mass of grayish white protoplasm was mystifying.

To be sure, there was a resemblance betweeen this five-ton object and the brain of a man. It was a similarity of form. The convolutions were present over the surface, looking like a maze of valleys. The brain was clearly divided into two lobes, well balanced as to markings.

The nerve structure was the matter which fascinated Professor Haycock, and he was debating with himself as to whether he should break into the brain surface. Lester Allison tried to counsel with him to call in a host of authorities from all over the world.

"This is an opportunity that may never strike again," Allison said. "While I appreciate your interest in exalting the name of your own laboratory, I believe this is the time to forget professional jealousies. The world of science would never forgive you if you made less than the most of this find."

Professor Haycox did not deny this. Verbally he was in agreement. But there was an inarticulate fear within him—almost an instinctive leaping of emotions that frightened him from this course of action.

"Yes," he would say, "I could name a hundred scientists who might have something to offer in analyzing this brain. I wish that they were here. I wish I could get them without allowing an iota of publicity to reach the papers."

"You are sure to get publicity sooner or later," said Allison.

"If I may interrupt," Kirk Riley began. "I've got a strong hunch."

"You had better keep out of this," Allison said.

"But if you are anxious to avoid letting the cat out of the bag—"

KIRK'S intrusion was silenced by a chilling frown from Professor Haycox. "This is no cat and there's no bag, and I hate slang. If you have anything to offer on the subject, put it in technical writing and mail it to me."

Lester Allison gave the professor a consoling tap on the shoulder. "Kirk didn't mean any harm. You mustn't mind."

"Make him go away," said the professor. "I am trying to concentrate."

Kirk blurted, "You've got to listen to me! They already know. I heard one of Ubruff's men calling in for a confab with the big cheese himself. The next thing you know they will be sandbagging you."

Professor Haycox readjusted his spectacles nervously and almost stepped off the platform.

"I demand that you cease speaking in this inelegant language. 'Cheese!' 'Sandbags'! Are you trying to turn this laboratory into an abattoir?"

Lester Allison shook the professor to silence. "Don't you understand? He's telling us that Ubruff's have our secret. They are going to make trouble. Now you had better call your experts in while there is still a chance."

Then a new voice broke in upon the discussion.

"So you want an expert, do you? Very well, I have come just in time."

Kirk and the others turned to see a stocky, well-dressed man sauntering across the floor toward them, levelling a huge pistol.

"Who is he?" Allison whispered. Kirk had no answer, and the professor was too scared to answer.

"Come down," said the gunman in a low voice. "You first, Professor Haycox. Take it easy, old man. We are going to need you later on. All right, you next, Allison. No, not so fast. Take your station right there at the far corner of the platform where I can keep my eyes on you. All right, Scrub, your turn, and no monkey business."

Kirk found himself lined up with the other two at the far side of the tank. Now the gunman mounted the ladder himself. On top of the elevated platform he assumed a very casual and friendly manner, waving the gun idly.

"Sorry I had to bring in a little artillery for a calling card," he said, and his sarcasm showed in a sinister twist to his lips. "But you never know what kind of people you are going to bump into these days. Now, you take my pal, Bill Kite—that's one of his names—he had a little encounter with a fellow who was so handy with his fists that I don't suppose Bill will go out nights any more. He's nursing a black eye all right, and scared? He's so scared he can hardly wait until he gets his hands on some puppy of a stooge from this biscuit bakery that calls itself a laboratory."

Whenever the man stopped talking, Kirk thought he could hear a slight hum from the gun. It was large, as pistols go, and it might have concealed something besides bullets. Perhaps a ray mechanism. Kirk wondered. All the while the instrument of death kept waving back and forth in the gunman's hand.

Kirk took comfort in the fact that it was not pointing toward him or either of his friends. If it had been a garden hose it would have sprayed the brain from one end to the other, time and again, the way the man was waving it. Now Kirk guessed that the hum was something the gunman meant to control by his incessant talk.

"Do you reckon he's sweeping that brain with a death ray?" Kirk tried to whisper.

"Shut up, you," the man shouted, "I will do the talking."

And he did, for another ten minutes. Then, suddenly, he ran dry.

"Thank you, gentlemen, for a very interesting evening," he said, and climbed down the ladder and strolled across to the exit.

Lester Allison started toward him. The man flourished the gun in a desperate manner. "Better stay where you are, friend Allison. You are a good space pilot, and the world would hate to lose you."

Lester did not stop. He plunged ahead, like a football player bent on a touchdown.

"Don't aggravate him," the professor squealed. "He will disintegrate you."

Kirk was thinking the same thing, only in words of fewer syllables.

But the gun didn't shoot, and Lester Allison stormed straight at the man who, for some strange reason, decided to drop his weapon in favor of his fists. Those fists were no match for Allison's. The gunman ducked two blows, then an uppercut got him on the jaw, and he went sprawling against the wall. It was a clean knockout, and the fellow's eyes went closed.

"Get some rope, Kirk. Tie him up until we can find a suitable room to lock him in. What's the matter, Professor? Nervous?"

The professor was edging around the gun as if it were a charge of dynamite with the fuse lighted.

"Do you think it will blow up?"

"Certainly not," said Lester. "It's no gun—it's a movie camera. This

thug came to capture our brain on film."

"This is only the beginning," said Kirk. "That Ubruff gang is gathering up for an attack—with firearms. I heard the whole thing in a telephone conversation."

CHAPTER IV

Flying Starfish

IF A CERTAIN warning had not come to Lester Allison from his wife, he might have walked out on this mysterious situation.

He had no official business connection with Professor Haycox and he felt out of place here, trying to lend advice to a problem he knew nothing about.

"I really have nothing to offer," he assured the Professor as they breakfasted together. "I repeat that I have never seen a specimen in any of my travels that remotely resembles this creature with the brain."

"Maybe you will," the professor suggested, "in your future travels."

Kirk felt a glow of enthusiasm. He had been lucky to follow Allison into this event. Nothing could suit him better than to be taken along on a few excursions to other planets in search of massive monsters with five-ton brains.

"It would not be easy for me to drop all of my present connections," said Allison, "to go skylarking around in search of the unknown. If that was your thought in calling me here—"

Professor Haycox tapped him on the arm. "Please don't jump at any hasty conclusions. I will compensate you for your time and trouble in coming here. If this ends your connection with the case, don't you see that you have already lent a valuable assistance?"

"How so?"

"By scrutinizing this specimen and stating that you have never seen anything like it. I will use your name when I am ready to announce my discovery to the world. Have you any objection?"

"Certainly not," said Allison.

Then he fell silent, frowning. The mystery was taking root in his mind, Kirk guessed.

Then a telegram was handed to Allison, and he excused himself to read it. It was from his wife.

EXCITEMENT HERE OVER STRANGE CONDITIONS IN ATMOSPHERE STOP ALL OBSERVATORIES PUZZLED BY YELLOW CLOUDS IN SKIES STOP RADIO RECEPTION FROM SMITT IN MERCURY VERY BAD STOP WHAT CAN MATTER BE STOP

JUNE

Allison passed the telegram around. The three men abruptly rose and left their breakfast unfinished. They walked out to the gardens on the south slope.

"There is a strange light," Allison observed. "I had not noticed it before. Was it there yesterday?"

"I noticed it yesterday," said Kirk, "when I was on the mountainside. But I have never been in Canada before. I figured maybe the air was just naturally a little more yellow up here."

"Don't be absurd," said the professor. "We have the clearest, finest air in the world. And now, if you gentlemen are through gazing at the clouds, would you care to resume our conferences?"

Allison was still gazing. "It reminds me of a covering that surrounded the Earth during those terrible raids from the warriors of Venus, when Sasho was the emperor. I will never forget the view of the Earth I had from a space ship, one of our old reliable Battering Rams. Sasho had sprayed the continents with explosive gas, and the rocket fire from his ships had ignited it. I

never saw such a mass of red and yellow flame in my life."

Professor Haycox began to take interest in the sullen, amber-colored skies. "Do you mean that might be a blanket of explosive gas?"

"If I thought so," said Allison, "I wouldn't be standing here. I was simply reminiscing, but I didn't mean to borrow trouble. However, think I'll spin out to the Rocky Mountain observatories and stop in at my resort home. Mrs. Allison must be a little upset or she wouldn't have wired me. I'll go at once."

"I will call my chauffeur," said Professor Haycox, "and accompany you to your plane."

There was a waste of time for Allison in this arrangement, but it was a well-meant courtesy. The professor was groping for help, and his anxiety to talk with someone about his discovery made him seem rather too insistent.

"Won't you come back next week, Mr. Allison? I will guarantee your expenses, of course. By that time I may have some data on the nature of the planet from which this monster must have come. By piecing together the evidences you understand, such as the strength of muscles, response to air pressure and adjustments to temperature, we should be able to guess what sort of climatic and gravitational habitations the creature lived in."

"I wish you all success," said Allison. "But I must remind you again that this is out of my line. I strongly advise that you call in other experts in biology for consultation."

THEY arrived at the private airport. While Kirk checked the plane, he kept one ear turned to their conversation.

"Then perhaps after we settle upon a probable planet," the professor was saying, "you will be so good as to make an expedition and take me along."

Lester Allison laughed. "You should visit my office and see the pile of work that is waiting for me. I am afraid my time is pretty well filled for a year to come. But there are many apprentice pilots, and if you get ready for an expedition, I will be glad to recommend one. Our friend Kirk here might be the very man."

Kirk had a happy vision of returning from a heroic adventure, of stepping down from his space ship to receive a wreath of honor from a group of beautiful girls. Then he thought of Professor Haycox, who would be standing beside him, and in his vision the wreath slipped from his shoulders to those of the professor. And then there was cheering, and the professor unwound a long speech in words Kirk could not understand.

"What are you dreaming about, Kirk?" Allison asked.

Kirk came to himself with a jerk. He shook his head dubiously.

"I wouldn't be the pilot for Professor Haycox. I'm afraid," he confessed, "unless the perfessor and I could get together on the King's English."

The leave-taking was delayed for a moment when someone from the laboratory came speeding out to the port.

"Pardon me, Mr. Allison. This is my assistant. Let me see what he wants," the professor said.

The assistant was in a state of high excitement. He wanted to tell everything at once. He and the Institute's lawyer had tried to talk with the culprit who had caused yesterday's trouble.

"We have still got him locked in the back room. He is raving something awful. He says he will have our place blown up if we don't let him out. He claims he has got a bunch of friends on the way already."

"From Ubruff's?"

"That's our guess. Once he talked about Bill Kite—"

"I know Bill Kite is from Ubruff's," said Kirk.

"But now he is trying to claim he never heard of them, and he dares us to try to arrest him. He tried to make out that he was some sort of a Government agent."

"Did he tell you his name?"

"He said we could call him Champ Gaskell, and if we would give him a chance to use his fists he would prove he was a champ."

Professor Haycox was highly disturbed. He was not a man to take trouble in his stride, and so far his attempt to get a monopoly on this unique physiological specimen had brought him nothing but trouble.

"Call the police," Professor Haycox said. "We will tell the story to them even if it does get to the papers. We have got to have protection."

At this point the chauffeur broke into the parley. He had a morning paper in his pocket.

"Take a look at this, Professor Haycox. If you think you are going to keep this big news out of the papers, I am afraid you are behind the times."

The professor adjusted his glasses, and Kirk Allison gathered round for a glimpse of the front page.

The photograph filled a quarter of the page. It was a cloud scene. Hanging low in the sky was a dark amorphous object—a sort of flying star-fish.

The caption read, "Is it a cloud or a flying fish?"

Allison read the brief paragraph aloud.

"Name it and you can have it. The amateur photographer who got this unusual picture swears that it is no fake. He thought he was seeing a huge bird or a new type of flying ship. He seized his camera, got the object as it was sailing over him, and here it is. But what is it? No one knows, least of all the amateur photographer. The creature floated out of sight, however, hidden among the low-hanging clouds."

For a few moments no one spoke, and for no reason at all everyone seemed to be gazing off toward the yellow skies.

Allison asked, "Did your truckmen get in with the rest of that specimen last night?"

Professor Haycox turned the question to his assistant, and he nodded.

"We have the whole staff of Room Three busy on it, trying to piece it together. But they are going to need more room. It is turning into a big forty-ton star-fish with six points. Just like the one in the picture."

Allison caught Kirk's curious eyes. "All right, fellow, we will go back and take a look."

CHAPTER V

Sky-Hooked

IT WAS late that afternoon when Allison and Kirk set their plane down in the little clearing in front of the Allison mountain resort. They mounted the steps of the cottage, rang the bell, waited. No one answered. Allison turned a key and they went in.

"June! June! Are you here?" Then they discovered the note on the table. It was in June's handwriting.

"Dear Lester: I was not sure how soon you would come, so I have taken the space flivver for a little errand. Everyone at the Rocky Mountain Observatory is so bewildered by what happened in the sky that I offered to take them up. Leaving at 2:00 p.m. Will soar straight to the zenith from the observatory. Be back tonight. Love. June."

Allison turned the note over and wrote on the back, "This is in case I miss connections. It is now 4:00 p.m. Kirk Riley and I will probably join you above the stratosphere if the Battering Ram at the Denver port has been put in condition. We are off to a late start, so if I miss you on our space jaunt will see you here tomorrow. We will spend the night overhead. Love. Lester."

Thirty minutes later they reached the Denver port and climbed into the recently serviced Battering Ram. It was a large ship for only two passengers, but Lester preferred it to any other. He had invented this model himself. It had once been his escape from Mercury.

Kirk was proud to take over the controls. "It's my first time to sail one of these ships. From what I've heard, they're the toughest model in the the world."

"They are the best flying ship I know anything about," said Allison. "You have probably heard of the part they played when the emperor Sasho tried to take over this Earth of ours."

"How could I miss it?" said Kirk. "Every one on earth has seen the famous painting of a Battering Ram crashing through the S-37."

"You see," said Allison, "those red and black metals from Mercury have a strength and flexibility that are unequaled. It was sheer luck that I was able to take over those mines and shops in Kilhide's Underworld. But it came to good use. This very ship is the one Smitt used in the final combat with Sasho."

"And here I am at the controls," Kirk grinned.

"Are you accelerating too fast for your blood? You're acting a little giddy."

"Sheer pride," said Kirk. But he settled down to an even speed.

Allison spent several minutes at the telescope, but failed to sight the space flivver. June and her party must have swerved from their intended course.

TAKING advantage of the remaining daylight, Allison and Kirk cruised back and forth, trying to guess the elevation that June and her party would probably seek. But two hours of searching proved fruitless, and Allison concluded that the other party must have already descended.

"We will follow the daylight and see what we can make of this business," said Allison.

The Battering Ram was now high above the stratosphere. Allison could look back and see the yellow gas toward the Earth. It was in the atmosphere. It was like a dust storm hovering high above the land.

"I don't understand it," Allison muttered over and over. "That blanket of yellow seems to be a complete sphere. Do you see any limit to it?"

Kirk shook his head. "What puzzles me, I didn't see when we passed through it."

"That's because it is nothing solid. It's all steamy—a yellow fog. But who ever heard of a fog rising above the stratosphere?"

"Above? Are you sure?"

Kirk could not quite conceive of there being *anything* above the stratosphere.

"Air can be very thin," said Allison. "They say it extends outward from the earth three or four hundred miles. But this little gauge is sensitive enough"—he pointed to a dial in the control panel—"that I have detected thin atmosphere as much as 1100 miles out. How far are we now?"

Kirk pointed to the altimeter. It indicated 1800 miles from the Earth's surface—a quarter of a diameter away.

In his hand he held a chunk of pink-colored substance

"Shoot us back down again," Allison advised. "Let's course through that band of yellow a few times. If it is not atmosphere, we are going to find out what it is."

"I suppose you will ride out with a test tube and dip yourself a sample."

"Not such a screwy idea at that. I might open the air locks and fill up with it, and see what happens."

"I told my girl in Brooklyn I would be back by the end of the week," said Kirk, "but I didn't warn her that I would want flowers and a casket."

"Get into an oxygen suit, Kirk. We are going to do it. Even if it's poison gas, it is worth a try."

"Gee! You don't want to get this boat full of poison, do you?"

"We can air it out again."

"Maybe it'll be explosive gas. Hell, Allison, you will have us blown up higher than the stars."

"Get into your suit and clamp the parachute locks on good and tight. Here we go."

By the time they were dressed for any emergency, the Battering Ram had skimmed down toward the 1500-mile level.

Allison took the controls. The altimeter went down—12—10—8—7—750—

"We're retarding."

"What happened?" Kirk barked.

Allison shook his head gravely. He touched the accelerator.

"We are still retarding."

"We are running into something," said Kirk.

"It is air pressure that's cushioning us."

"We are stopping!!"

"Don't scream," said Allison. "We still have plenty of power." He bore down on the accelerator.

"But look at the speed. We are stopped. We are caught in space."

CHAPTER VI

The Mysteries of Pink Dust

IN A LAND of mighty creatures a teacher had been instructing a class in the mysteries of atoms.

In his graceful seven-fingered hands he had held a chunk of pink colored radioactive substance which he simply termed a piece of "fuel."

"What is it? Where does it get its energy? What would we find if we could analyze it—break it down into its smallest components?"

Some of the pupils volunteered answers, for they were acquainted with the journals of science of that far-away land. Others sat in dumb bewilderment, drubbing their seven-fingered hands on their desks, waiting to be taught, unwilling to probe the matter for themselves.

"You are familiar with the fact that all matter can be broken down into molecules, and these molecules into atoms. But what lies beyond? Is there any limit to our pursuit of these infinitely smaller divisions of matter?"

Some student volunteered a partial answer. Atoms, he said, had been found to be made of particles of energy in motion—electrons spinning around a nucleus.

The teacher was pleased.

"There is no limit to how deep our investigations may go. If you have been following the journals, you know that we have recently hit upon certain remarkable methods of investigation. Our telescopes are wonderful. We could not do without them. But we have found ways of surpassing them. We have learned to borrow the faculties of tiny creatures whose sense of perception are much more delicate than ours."

The bright students nodded to each

other. They had heard of this before.

"This bit of fuel which I hold in my hand," the teacher continued, "is a very small part of our own universe. But if you can imagine ourselves to be tiny creatures only one-billionth our present size, then perhaps one grain of dust which might be scraped from this chunk of fuel would seem large enough to be worthy of our respect."

Now the idle drubbing upon the desks had ceased. The imaginations were alert to follow this intricate explanation.

"The remarkable fact is that this particular bit of pink substance did chance to furnish the grains of dust upon which certain investigators are working. And what is the method that they have used to gain new insights upon its composition?"

One of the students replied that "intelligent microbes" had been used.

"Correct," said the teacher. "In recent generations certain investigators have given their lives to the most difficult task of establishing and improving communication with the intelligent microbes. At first it was believed that these tiny creatures, invisible to our naked eyes, were incapable of a mental life. But now that we have a system of common symbols, we have interchanged ideas with them, and they have given us a first-hand verification of our theories of the composition of matter."

The teacher held the pink substance up to the light and looked at it admiringly.

"Grains of dust from this fuel are still under observation by a colony of so-called 'graduate' microbes. Our knowledge of what they have learned is only fragmentary. But would it not be exciting if we could reduce ourselves to their size, to know what they are seeing?"

CHAPTER VII

The Graduate Microbes

ONE entire room had been given over to the graduate microbes.

Here they had been installed from the moment the superior creatures of this land had made the revolutionary discovery that microbes could be utilized for their own intelligence. It was dangerous for the great creatures to enter this room, not for themselves but for the damage they might do. The graduate microbes were invisible. One could never be sure whether they suffered from being stepped on. Or, more important, whether they might have installed scientific equipment of their own which could be endangered.

The graduate microbes, however, were intelligent enough to make their own adjustments to those massive creatures who had provided this world for them.

"It is a new age for us," they would say. "There was a time when we lived in the darkness of our masters' ignorance. In those times all microbes were viewed with suspicion, but now our masters know that we are many species and classes, and in each class we have our own individual differences. Now that they have segregated the more intelligent of us, we have come into our rightful glory."

If the microbes were somewhat amazed at their success in contributing to the knowledge of their great masters, it was purely because they had worked under the handicap of smallness. It was no easy matter to communicate with creatures so large that they could not see you. Generations of effort had gone into the building of a system of common symbols. There had been wasteful trial and error before the first signs of success.

But the graduate microbes were exultant for another reason. If they boasted and strutted and ballyhooed their success in glowing terms, one of the reasons was that they had acquired the services of another race of creatures.

"We are wonderful business men. We have the traits of genius," they would say. "We have not done this work ourselves. We have found subordinates to do it for us—tiny creatures to whom the microbes seem to be giants."

The civilization of the graduate microbes was dominated by this psychology. It made up for their smallness in comparison to their masters. It gave them a sense of domination which compensated for everything.

Though the big creatures were their masters, they in turn were the masters of this subordinate race—*the civilized fleas.*

There was a proverb in the language of these intelligent microbes which ran: "The two-legged flea is the lowest of all creatures. It is an abomination, deserving nothing but destruction."

This proverb had been handed down from those dark ages of the forgotten past when all fleas were thought to be pests.

But time had changed the status of the lowly flea.

It was, in fact, the development of scientific instruments in the laboratory of the microbes which led to this discovery. These parasites, so tiny they could hop over the bodies of microbes without being noticed, were found to be industrious. They boasted a language of their own. They had energetic, green-coated bodies which were capable of leaping through a distance many times their own height.

In size they were only about one ten-thousandth the weight of their masters, the graduate microbes—very insignificant little creatures indeed.

But to the eye of the microbe they were visible. Therefore, they could never hope to be out of mind. There had been trouble, of course, but as time went on the badly behaved members of the flea race had been killed off, while those showing a capacity for adjustment had found a place for themselves in this heterogeneous social system.

The fruits of this relationship were at last being harvested. The knowledge of the fleas was being passed up the line to their gigantic masters, the microbes, who in turn would communicate this knowledge to their mammoth superiors.

When the biggest of these varied forms of life decided to investigate the nature of matter, they called upon their servants to provide the fineness of their microscopes and other atom-splitting equipment.

The microbes themselves were much too large to see into atoms, but their servants, the civilized fleas, looked into the matter.

The fleas reported what they saw. Their discovery was far more startling than the most daring theory had suggested.

Yes, there were component parts to be discerned within the atom itself. There was a nucleus—a comparatively tiny ball at the center—surrounded by several spinning balls of slighter dimension. This whirligig of energy—mostly space—was what the fleas found the atom to be. Around them was an immense and boundless universe of atoms—known to the greatest creatures as a bit of pink dust!

But the exciting details which they added to this description were that some of these tiny whirling bodies were *inhabited!*

THE amazing discovery skyrocketed upward through a series of jumps, to penetrate the minds of the great creatures who had prompted this investigation.

"How do you know? What evidence did you find to suggest that these tiny electrons can be inhabited planets?" The question filtered down by way of the microbes to their parasite slaves.

"How do we know that those balls are inhabited?" The civilized fleas hopped around nervously before they would answer the question which caused them considerable agitation. They were not sure whether they wanted to give away their secret.

"We know it is true," they would reply. "Take our word for it."

Their microbe masters bore down upon them with renewed pressure—pressure which had been applied from above. When pressure failed, they appealed with an argument for fair play. This sort of friendship demanded the utmost frankness and honesty. There should be no secrets.

"Our very security in this laboratory —our universe—depends upon our cooperation with the great creatures above us," they warned. "For your own survival you dare not break the chain of friendship."

The fleas saw the reasonableness of this argument. They walked the wide floors of their boundless world (which was nothing more nor less than the broad table-top in the corner of this wide room). They joined in parades for or against the policy of revealing their secrets. Their green bodies might have been seen by their master microbes massed in throngs of thousands, assembled to listen to the arguments, pro and con.

And if the microbes had taken the time to follow the details of this conflict they could have witnessed many a fist fight, many a life and death struggle with metal weapons. For these little green two-legged creatures realized that this was a crisis. Their independence was at stake.

Some would argue that it would be impossible ultimately to withhold any secrets from the master race. "We are vulnerable. They can see us with their naked eyes. If we cheat them of our most important secret, they may bring our idyllic existence to an end."

"But they cannot afford to do that. They need us."

"There are other fleas. We are not indispensable."

In the end a compromise was reached. The lively, headstrong, conceited leaders persuaded their masses that a small amount of information could be imparted, but not all.

"Let's admit to our giant masters, the microbes, that we possess high-grade scientific instruments of our own. Let us acknowledge that we have learned to carry on our own investigations through the use of lenses, telescopes and microscopes. This will be enough to tell them."

And so an agreement was reached. But the most important secret was withheld. All the fleas agreed that they would not reveal that *they, too, had a set of living servants—the "one-cells"—little invisible lives who were all nerve and brain.*

CHAPTER VIII

Starfish Outward Bound

LESTER ALLISON had been something of a legend to Kirk Riley until now.

First, he had been a picture in the papers and on the television screen. Then he had been the hero in the mayor's car that paraded down the

streets under a deluge of ticker-tape.

He had been the subject for inspirational lectures, movies, and books for schoolboys. He had been these things because of his supreme achievements in two great crises which could have been surmounted only by a genius of space.

But now Kirk was seeing the real Lester Allison—a hero in a jam. In comparison to the valiant space man, Kirk himself felt helpless, paralyzed.

His interest in watching the elder man's schooled hands play over the controls made him a useless spectator.

He came to life when Allison shot a sharp glance at him. It was a look that said, "Do something!"

Kirk looked around helplessly, made several false starts, found himself completely bewildered. According to the dials the ship was suspended at an elevation of 750 miles.

"What am I supposed to do? Grab an ax and chop away an invisible jungle?"

"Get on the radio," Allison snapped. "We will try to get a call through to June."

Beside the radio controls there was a small chart, and Kirk found the wave-lengths listed. In a moment the instrument came to life and the receiver began to hum.

"Calling June Allison . . . calling June Allison. . . ."

"Up a little higher on your rheostat," Allison advised. "That's O.K. Hold it right there. Keep on trying."

"Calling June Allison . . . calling June Allison. . . ."

This routine went on for many minutes. It gave Kirk freedom to watch Allison as he tried to shoot the ship out of this dead spot.

The countermotors roared. The dials showed that the ship was achieving a slight lateral motion. Then the accelerators went down, and the big rocket motors bounded and there was a brief forward jerk. The ship might have been lurching into a vast invisible elastic ribbon. Its momentum was lost in a cushion.

"We are getting nowhere fast," Allison grumbled. "Whatever this thing is, it is getting thicker. We had better head for the open spaces."

"Or can you? I figured we were all tangled up in a mess of invisible wire or something."

"Keep on that radio," said Allison.

The boat ceased to plow the space in a vertical direction with the Earth as the goal. Little by little it nosed around, until it was going into the invisible band of obstruction on a shallow angle.

Kirk jumped with enthusiasm. "That's it, Allison. Give her the old works—er—calling June Allison . . . calling June Allison. . . ."

The boat swept back and forth and was at last rocketing along at a moderate speed.

"Are we out?" Kirk asked.

"We are in," said Allison. "We have nosed through like a rat through a maze. Take a look, since you are not doing anything else. See that yellow air?"

"Gollies! If it wasn't for the color I'd think the Milky Way was closing in on us."

"The tail of a comet would be more like it," said Allison. "The next time you have an evening off you had better brush up on your astronomy."

"The girl friend in Brooklyn gets all my evenings off."

THEY drifted along at what Allison called his atmosphere speed—snail travel compared to his normal pace through the great skyways, but a safe speed for penetrating the friction-producing air that hovered around several of the solar planets.

But Kirk saw that they were not heading for a port. If he read his hero's expression correctly, he guessed that this mysterious challenge had got under Lester's skin.

Now the radio came through: "This is June Allison . . . this is June Allison . . . are you there, Lester?"

Allison took the microphone. "Hello, June. I am calling from the Battering Ram. Altitude 650 miles. Kirk Riley and I have just pulled out of a tangle with the atmosphere. I don't understand it. Did you and the astronomers get up this way?"

"We have just now landed," came June's voice. "We reached 700 and skirted along the under side of that yellow layer, whatever it is."

"What did the astronomers make of it?"

"They tried to take dimensions and measurements, and you never heard such a conglomeration of mathematics. But they don't have any idea what it is."

"You didn't have any trouble getting away?"

"When we got our samples of atmosphere from the highest elevation, I thought I was running into a belt of friction. But I pulled right out. When do I see you, Lester?"

"In a few hours, honey. There is only half a globe to surround before I will be home."

They sent the Battering Ram on a bee-line, and Lester continued at the radio, trying to contact a few of his business associates.

What news he could gather was no more than he had found for himself. The astronomers all over the Earth were in a state of amazement. Chemists had arced over the stratosphere to capture a few samples of what they thought might be a poisonous or explosive gas. Newspapers were said to be screaming headlines warning of some impending catastrophe. Inevitably the news made comparisons to the gas war which Sasho had brought to the Earth only a year ago. America was still rebuilding as the result of the wide-scale explosions. The terrors of the past were on tap.

Allison grew grave as he contemplated these things.

"There will be a regular panic of fear," he said, "but in twenty-four hours we may know. If the chemists analyze their samples of the yellow atmosphere and find it harmless, there will be nothing to do but wait. After all, the color may not be a gas at all. It may be some curious accumulations of planetary magnetism, coming together in a new combination."

Kirk was seeing his hero now as a person afflicted with normal human weaknesses. Like anyone else, Allison was given to optimistic gropings. But no hypothesis sounded at all hopeful.

The Battering Ram swung back to the Rocky Mountain area just as the pink of dawn was showing on the horizon. As the ship settled down, Kirk, seated at the telescope, gave an exclamation of surprise.

"Come here a minute, Allison. Take a look at this."

"What have you got?"

"The biggest flying bat you ever saw. Or is it a starfish?"

"Give me that telescope!"

Allison's eyes narrowed on the lens, and he kept the instrument turning slowly along the northward line of the horizon.

"Good eye there, Kirk. I'll fill your chest with medals for this."

Allison leaped back to the controls and set the ship in motion.

"Wait a minute. Where we going?" Kirk gasped.

"There's no time to change to a

plane," Allison snapped. "Get on the radio and call June. Tell her we're on the trail of something and I won't be home until I get a photograph."

CHAPTER IX

Shadow Out of Nowhere

THE "flying starfish" hovered along at an elevation of two or three miles, so close to the Earth that an observer might have thought it an odd-shaped space ship looking for a spot to land. It was seeking the twilight zone. It moved along just fast enough to keep ahead of the rays of the rising sun.

"Do you ever get hungry?" Kirk asked.

"I could do with some eggs and bacon," said Allison. "Why?"

"Because in three hours we are going to be over the wide Pacific at the rate we're going. And there won't be a restaurant in sight."

They were skimming along at an elevation even lower than that of the flying starfish. Allison's object was to find a way around without attracting the creature's attention, so that he could catch a picture against the white eastern sky.

"Why don't you want it to see us? I hope you don't figure it's big enough to do any damage to the Battering Ram."

"Certainly not," said Allison, "but if it has a nest somewhere over these mountains, I'd like to know it, and if it's just taking an easy swing around the globe for exercise, I'd like to know that, too. We can eat breakfast when we get back."

"Twenty-four hours to breakfast!" Kirk pressed his hand against his forehead and pretended to pass out.

"All right, Hungry. Trot yourself back to the kitchen and see what you can find in those upper drawers. There should be a few packages of food concentrates."

For the next half hour Kirk puttered around in the kitchen. This was another new luxury for him—eating on board a space ship. It was a cinch that a grease monkey in a space port missed out on all the fun.

He found coffee, too, among the shelves of food pills, and was soon preparing the breakfast, that would have made all the boys back in the space port jealous. He would tell his girl friend in Brooklyn about this.

Not until he brought a tray of food to Allison did he realize that the ship had been accelerated.

"My stars and comets! We are rocketing along at 100,000 miles an hour! When did that happen?"

"Get your blinkers up against the telescope," said Allison. "Tell me if you see anything."

Kirk obeyed. "I don't see anything but space. There's Uranus off to the left. Where the devil are we? It's all velvety black."

Kirk tried to turn the telescope back to the Earth's atmosphere, but if he wanted to see the Earth now, he would have to view it from the tail of the ship. He was gasping.

"Did you mean to do it, Allison? You have got us leaping straight across the solar system. I thought you were chasing a starfish."

Allison drew a worried breath. "I'll be blasted if I can figure what it is all about. But a few minutes ago, the most gigantic object I ever saw reached through this space between planets, and by George, the sailing starfish zigzagged until he got aboard that thing."

"What thing?"

"That long bar that came reaching out of space. As nearly as I can describe it, it was a long, straight shadow. But it must have had substance. Some-

how it took the flying starfish aboard, and then it pulled away."

"Pulled away to where?"

"That's what I'm trying to find out. I am right on the line of its retreat. But my honest opinion is it has swung clear out of the solar system."

"And you are trying to chase it?" Kirk gasped. "My stars! Is my gal friend in Brooklyn going to miss me!"

WHETHER the world of green fleas was afflicted with a larger share of conceited personalities than any other society of intelligent creatures, may be a subject of interest for some social analyst in the future. It may be found that this race of two-legged, two-armed, twin-horned animals had reasons for developing along the lines of self-glorification.

"We are the ones who do the work. Without us, the fine plans of those masters who overshadow us would come to nothing."

This announcement, expressed by one of the most voluble of the civilized fleas, was a sort of keynote. It expressed what all of the hard-working fleas felt. They were the gropers, the toilers, the over-proud executors of this chain of scientific investigation.

It was a flea by the name of Lyon who sounded off with this keynote announcement.

Lyon was no greener than his brothers; he was no taller. Perhaps he was half a girth rounder than the average. It is certain that he was considerably noisier than most.

When the new instrument, with its finely ground lenses was to be hauled up in place, Lyon was the one who stood by the path, shouting in a stentorian voice: "Heave, boys! Don't lag there! Keep it moving!"

Eight hardworking fleas had put their shoulders to the wheels and were making good progress. But the hearty encouragement from Lyon added to their energies, it seemed. With renewed vigor they rolled their burden down the trail.

One of their brothers, a slightly scrawny individual named Zeerat, who was considered by some to be a chronic complainer, muttered unhappily over this outburst of energy.

"Why do we let Lyon tell us what to do? We know where we are going. If he wants more speed, why doesn't he put his shoulder to the wheel?"

"Lyon is too fat to work," one of his companions rejoined, "but what he lacks in muscle he makes up in voice."

"Very generous of him," Zeerat grunted.

"I maintain that Lyon is an individual of great force," said Ark-Lark, the companion. "He has encouragement for everyone."

And another flea added, "We need fellows like Lyons to make our speeches. There will be an occasion for a speech as soon as this telescope is mounted and ready for action."

Several thousand fleas were gathered at the appointed spot when the hour for the speech arrived. There was a shouting and a beating of hands to welcome the dignitaries of the occasion. Around the base of the telescope there was a semi-circular platform of concrete.

The train of dignitaries mounted the steps.

The most important figure was Prince Zaywoodie. He was tall and handsome. His eyes were very black, his horns very green. It was said that Prince Zaywoodie had won the jumping contest every season since he had grown to maturity.

Now the Prince spoke.

"We are living in an age of enlightenment. For many seasons past there

has been a shadow over our race. But recent advancements are bringing us into the light.

"We must no longer feel that we are inferior to the microbes. They may be ten thousand times as large as we, but that does not make them ten thousand times as important."

Mass cheering greeted this assertion. Lyon, sitting at the end of the platform, made himself the unofficial leader of the applause by urging the crowd to keep on.

But Prince Zaywoodie waved for silence and continued, "Some great creatures higher up have conceived of the idea of investigating what they call the 'atom'. They think that this is an original idea. We know that it is not."

This brought an outburst of laughter, and again Lyon led the cheering.

"We are close enough to the atom that we can see into it," Prince Zaywoodie went on. "When it comes to exploring a mystery, we are on the ground floor. But these vast creatures who think themselves our masters are handicapped by too much size. We know that they are so large that they have to use instruments even to see our master microbes!

"We in turn are so much smaller that the microbes themselves used to consider us pests. The very name 'flea' which they gave us was once a term of scorn. But today we are proud of that name. It is a symbol of greatness. *We are fleas!*"

The tumult with which this masterful bit of oratory was received excelled anything on record. It was not confined to shouting, but included a considerable amount of leaping. Even the dignitaries on the stage bounded up and down with joy. Lyon jumped clear over the telescope, and came down to the stage shouting, *"We are fleas! We are fleas!"*

IT TOOK several moments for Prince Zaywoodie to calm the crowd so that he could continue.

"At last we have perfected an instrument which will enable us to do what none of our superiors can do. We shall be able to examine the surfaces of those electrons which make up the atoms of that 'pink dust' which has been dumped into our universe. We are now making arrangements to capture one of these electrons."

There was more cheering and much gazing into the great atmosphere overhead. As most of these highly developed fleas realized, the atoms which had been brought into this universe were l a r g e l y space — space that abounded with energy — space whose only form was that of the whirling electrons which it contained. It had been a source of never-ending amazement to these fleas to watch the spinning and whirling of these bodies.

"The surprising thing that has come to us," said Prince Zaywoodie, "is a rumor brought back by some of our salves—the one-cells. Before attempting to capture one of the electrons from our laboratory universe of atoms, we took precautions to send a squad of one-cells into the midst of this pink universe to explore. A few of these have returned. By means of manipulating their six arms, they have transferred their knowledge to us through the established six-arm code. And what is this surprising fact they brought us?"

The speaker paused, and the thousands of civilized fleas waited with bated breath.

"We find that some of these electrons are actually inhabited. Yes, inhabited by living animals which roam over its surface, even as we roam over the surfaces of our larger universe."

A low murmur spread through the audience. Imaginations were chal-

lenged. How could one conceive of animals tiny enough to dwell upon the surface of these little electrons?

"We have considered the electrons of our laboratory atoms to be too dangerous for handling. As you know, they vary in size. Some of them have diameters no greater than our height. Others would outweigh us thousands of times. All of them spin with such regularity that we have not dared to interfere with their courses.

"But now that our one-cells have observed living creatures upon them, what could be more logical than our ambition to carry our research further? For this purpose we have built and we now dedicate this great telescope."

Prince Zaywoodie bowed time and time again in acknowledgment of the enthusiastic response from his audience.

There were other brief speeches. There were warnings that these further experiments might involve dangers, but fears were overshadowed by hopes. And above all, the spirit of the occasion was a promise of new features of achievement, which were sure to make an everlasting impression upon the master microbes and their superiors.

The occasion was climaxed by the appearance of one of the one-cells, who had made an excursion to the surface of an electron.

Compared to the fleas, this one-cell was much too small to be visible to the audience. But the inventive fleas had provided for this emergency. By a series of reflectors they magnified the image of the one-cell so that it showed upon a screen.

Through clumsy processes of waving its six arms, the one-cell communicated a few words to the audience. The more educated of the fleas read the symbols as they came forth: "One . . . of . . . the . . . electrons . . . is . . . inhabited . . . by . . . tiny . . . creatures . . . who . . . walk . . . on . . . two . . . legs . . . and . . . resemble . . . fleas."

CHAPTER XI

Crystallized Yellow

THE Battering Ram rocketed along at full speed for several hours, and Lester Allison and Kirk Riley didn't give the telescope a moment's rest.

"How much farther are we going?" Kirk asked. "Where's our limits?"

"Our limits are our fuel supply," Allison replied, "but we may as well turn around. It is a wild goose chase now."

"That's what I figured. This thing you're chasing was just a dream."

"It was something from outside the solar system," Allison declared.

Kirk shook his head. "I know how it is. A fellow drops off to sleep for just half a second and he can see the stars jumping around, but they are back in place now and I'll keep an eye on you to be sure you don't doze off again."

Allison chuckled. "So you think I have been seeing things. Well, I hope you are right."

They turned the Battering Ram back toward the Earth.

Several hours later they were seeing that strange thing again—a sphere of yellow encompassing the planet. It was larger than before. It appeared to be a thin, transparent balloon, inflated to the breaking point.

Through this amber-colored, diaphanous covering they could see the Earth itself, neatly centered within.

Allison did not have much to say. This phenomenon was unbelievable. It could not be, and yet there it was. But Allison now thought of all of the alert astronomers on Earth who had seen this strange thing in the making. He

only hoped that they would have some clue as to its origin.

"My stars and comets!" Kirk kept saying. "Do you reckon we can bust through that thing and get back home?"

Allison drew a deep breath. "We will soon find out."

The great surface of transparent substance rose and spread wider and wider until the space ship seemed about to land on an endless floor of glass.

It was a tricky business. The instruments reacted as if this were the surface of the Earth. But the gravitation gauge was misbehaving, its arrows jumping erratically.

A good share of the Sun's light filtered through to the Earth so that there was a soft amber glow coming up through the transparent floor. On the upper surface, rays of the Sun blazed brightly, like a morning light off a wet pavement.

"We will never get through there," said Kirk.

"If the Battering Ram can't, nothing can."

For three hours they circled, searching for some flaw or break in the surface. They spun round the entire Earth at high flight speed. Everywhere it was the same. The search was futile. The Earth could not be reached without a forcible penetration of this shell.

Allison slowed the ship down as if for a landing, and lowered it until the landing gear touched the surface. There was a sharp scream of friction and the ship shuddered. On the instant Allison cut for elevation and was again well above the surface.

"Look back, Kirk. Did we cut a break?"

"You didn't even leave a dent."

"All right," said Allison, "strap yourself into your seat and set the levers for a take-off shock."

"What you gonna do?"

"Take a long chance. Are you all set?"

Kirk felt himself getting pale around the gills. "If you're figurin' on smashin' head-on, just let me out. I will gladly walk home."

"It's a long, long way to Brooklyn," said Allison. "Hold tight."

SEVERAL minutes were spent in checking the mechanisms to make sure that the ship could withstand a series of shocks. At last, when the landing gear had been drawn in, the airlocks checked, and the two oxygen-suited pilots fastened in their take-off seats, the Battering Ram accelerated.

The angle was chosen with care—the shallowest shot that Allison could take that would still give the nose of the ship a chance to go into the surface.

The Battering Ram charged down like a bullet.

"Here we go! Hold tight!"

Kirk did not have to be warned. He was holding on for dear life and his eyes were closed. Then—

BRROOOMMM!!!

At the instant of striking Allison's hand jerked down on the stick.

Kirk opened his eyes, a little surprised to find that he was still alive. He glanced out to see what had happened. The ship had bounded up like a bouncing ball—a grounder skimming along close to the surface.

"Here we go again!" Allison shouted. The ship nosed down.

BLAANNNGG!!!

Kirk was afraid to open his eyes this time, but when he did he snapped them closed again. The ship was shooting down once more.

This time when it struck, Kirk emitted a painful groan.

"What's the matter?" said Allison.

The take-off seats glided back and forth and came to a dead stop be-

fore Kirk opened his eyes to answer.

"If I live through this, I will go back to Coney and hire out as a human skyrocket."

"If you have any bright ideas about how to get back to Coney, tell them to me. We are up against it, Kirk. We are three thousand miles from the Earth's surface and we are locked out."

CHAPTER XII

A Job for Mercury Metal

"WHAT are we gonna do?" asked Kirk. "Can we land and wait to see what happens?"

"What do you think will happen? Do you figure some expedition will come to our rescue if we settle down and wait?"

"Well, they ought to see a speck on the surface sooner or later and come up and investigate."

"I am afraid we would have a long wait, partner. I'll admit this thing has me stumped. But in the first place, we have got to think of something besides our own necks, and as long as we are on the outside we have a chance to contact other planets for help. Now, Kirk, do you have any ideas?"

It was a challege to the younger man. He stopped to realize then that his hero worship had built up a dependence upon Allison. But this problem was new, and there was no reason to assume that Allison knew all the answers.

"Well, if I had got into this jam by myself," said Kirk, "and was drifting around up here alone, I'd try to figure out something, by Gollies!"

Lester smiled. "Now you're talking. Where do we go from here?"

"Well, first of all," said Kirk, "we better try to communicate with the space port on the earth. And second, if they can't give us any answers, we had better get to another planet in a hurry, before we are out of fuel."

Allison nodded. "Very good, Kirk. We will do both at once. You take the controls. I'll get on the radio."

"Shall I sheet for Venus?"

"It happens to be on the other side of the Sun," said Allison, "and besides, my shops are in Mercury. Can you get your bearings from the three-dimensional chart?"

"I'll figure it out," said Kirk. "So long, B r o o k l y n! We're Mercury-bound."

Several hours later the storm surfaces of the planet nearest the Sun were swelling and boiling like a ball of smoke. The planet was right in front of the Battering Ram's nose, and as it grew to fill the whole sky, Kirk had the sensation of falling headlong. He was a little dizzy from his long siege at the controls, but he was willing to pick a spot for landing if Allison wanted to give him the chance.

However, Allison had been disappointed in his efforts to get through to the Earth by radio. Perhaps he felt the need of working off some nervous energy. Without a word, he motioned Kirk to one side and he took over.

The ship circled, after retarding, before it dipped down toward the mountainous region where heavy forests made landing seem impossible.

"It's too bad June isn't along with us," said Allison. "This is our old stamping-ground. If you will look carefully, you'll see the landing chute that we are headed for. There is an underground world here. Once an American scientist named Kilhide made a good thing out of the natives who lived her."

"You mean the Dazzalox?" Kirk had heard the accounts.

"Right," said Allison. "We had some stormy times, June and I and

Smitt and the others, when we were brought down here as slaves. But as things turned out, it was really a lucky break. We have yet to find any metals that can stand up against these Mercury products. In a few minutes you will get to see the Kilhide shops."

Kirk watched the ship thread its way slowly down through the long rock tunnel.

There was a low roar of landing gears echoing through the walls. The headlights reflected gleaming steel tracks along the field. Soon a number of space flivvers and rudders and rocket motors and neat stacks of sheet metal came into view.

"The finest metal in the world," Kirk gasped. He was beginning to catch the spirit of this place—a space port and factory from which the Battering Rams themselves had come.

"We call this the Red Suburb," said Allison, as he brought the ship to a stop. "In time you will get to know this place as well as you know your own space port. And I think you'll like it. It has an atmosphere of its own."

THE air locks opened, and Kirk followed Lester out. He took a deep breath.

"It does have an atmosphere of its own," Kirk gasped. "I think I'm gonna faint."

"You will be dizzy for a few minutes, but you will get over that. This is the longest space ride you ever had, isn't it?"

"It isn't the ride," Kirk whispered, "it's this light air, and I'm wobbly on my pins."

"We are in light gravitation here. You will get used to it before long. There's an exhilaration in it when you discover you cam jump five times as far—say, you're pale. You had better sit down."

Kirk went him one better and lay down. He closed his eyes. "Give me time. I'll be all right in a minute."

Allison went back into the ship to get a blanket. Kirk felt like a sissy as the veteran pilot rolled him over onto the makeshift bed.

Voices could be heard echoing through the Red Suburb, calling their greetings to the newcomers.

"You catch a nap, Kirk, and come on down to the shops when you feel like it. You will find me down there at work. I have got to get the crew busy, and there is no time to lose."

Kirk slept the hours away, but as he came to consciousness the problems of the Earth were very much on his mind.

"Here I am on Mercury," he mumbled to himself before his eyes opened. "We have come here to get more fuel, and we will go back and try to break through that strange shell that is around the Earth. The world's toughest metals are here, but what good are they gonna do? The Battering Ram's made of them already and it couldn't get through. . . . We are stymied. . . . We are locked away from the Earth. And my gal friend in Brooklyn won't know what became of me."

Then Kirk dozed off again, as if sleep would lift him out of his troubles. But the big worries mounted before him like grotesque nightmares, staring at him, frightening him. He saw a few flying starfish flying after him, and now they seemed to have great eyes that leered and mocked. In vast formations they swept the skies, weaving the weird yellow fabrics that imprisoned the Earth in a gigantic, transparent shell.

Abruptly he awoke. Allison was standing above him, smiling.

"Come out of it, Kirk. We need your muscles. I'll help you down to Headquarters. You'll meet the gang, and as soon as you've taken on a little nourish-

ment I want you to lend a hand on the black metal lathe."

"O.K., if my legs will help me up." Kirk climbed to his feet weakly and ambled along, bearing on Allison's arm. "I have just dreamed up some big ideas. You know those flying starfish—I've got a notion they did it."

"Did what?"

"Built the shell. Don't ask me how, but we've got it figured out that they must have come from some other planet, and the way I've got it doped out, why, if there was a thousand of them workin' together—"

Allison gave a low laugh.

"How many million square miles of surface do you think there are in that shell? If that substance had been convoyed to the earth by flying starfish, the telescopes would have seen them—hundreds of millions of them blacking out the Sun."

"But you did see some great black object coming through space, you said."

"You're right, that has got me going. I can still see it in my mind, and Smitt and the rest of the gang have had me describe it over and over to them. But whether it and the flying starfish with the big brains and the shell that has formed around the earth have any connection is more than I can say."

Kirk could hear the hum of generators and the clanking of derrick chains from the windows of the stone walled shop. A moment later he was being introduced to the engineers who made this world of magic go—Smitt, Laughlin, Bob Wakefield, and their crews of mechanics. These were all Americans who, with their families, were living here, keeping the wheels of the Kilhide Mills turning.

Salutations were brief, for, as Allison explained, "We have got a big job on, cooking." Then, as Kirk was led into the noisy shop, he saw what was happening. The Battering Ram stood outside with its nose pointed through the huge aperture in the side of a building. The point was being removed by three workmen.

"We are going to transmit power to the Ram's nose," said Allison, "and there's the mechanism we will add."

He pointed to a blueprint. Kirk's eyes took in the plans: a Battering Ram with an augur in the front.

"If this metal is as tough as I think it is, we will go back to that shell and bore through it," said Allison.

CHAPTER XIII

Rude Awakening

AT LAST they were off again, with high hopes that their scheme would come to some good.

Kirk watched through the windows for a long time, after he had been dismissed from the duties of piloting. To gaze out at that velvety blackness and know that these were the spaceways of which Lester Allison had become the master was an ever-increasing thrill for Kirk. The deepest blue of midnight on the Earth was never so black as this never-ending ether.

But Kirk realized more than ever that he was a novice in comparison with Allison. The veteran flyer had an instinct for direction and distance, and he knew the Battering Ram well enough to guess the approximate speed without glancing at the dials. It must have taken hundreds of thousands of miles of lonely travel to develop this sense.

"You'd better get some sleep, Kirk," said Allison. "I have the controls set so that we will zoom straight for the Earth at a high speed, and I'm setting the alarm to wake me up twenty-five thousand miles from the Earth's core.

That will give us ample time for retarding before we approach the shell."

"You remember that the shell was expanding," said Kirk.

"I think it has ceased to expand," Allison reassured. "I have studied it through the telescope for the past half hour. Take a look if you want to."

"Thanks. Believe I will. Oh, Les —"

"Then get yourself some sleep," Allison repeated.

"Are you sure, Les, that you will hear that alarm?"

Allison smiled. "Don't worry, Kirk. I never sleep overtime. I'll be up ahead of it."

Allison trailed off to his bunk.

Kirk took another look at the controls, set for steady cruising. Then he turned to the forward telescopes and spent several minutes gazing at the distant Earth.

What a strange sensation—to be seeing your own home planet from thousands of miles away. That was the Earth all right.

Through the crystal shell the very continents could be seen, with their shadowy mountain ridges. Allison was right about the shell, too. It was still a concentric circle around the Earth, and Kirk guessed it to be about three thousand miles out from the surface.

What was going on back there now, he wondered. What had happened with Professor Haycox and his excitement over new specimens? Had the scientists determined upon some planet as the home of the gigantic flying starfish? What had they learned of the mysteries of that creature's brain? And what speculations must be going on in the Rocky Mountain Observatory?

And what were the boys at the New York space-port thinking? Did they realize that all space business was about to crash head-on into an immovable object? Perhaps there had been accidents already. At any rate, all the sirens and loud-speakers would be screaming warnings for the benefit of every amateur navigator who hoped to take off for another planet.

And what of Brooklyn? Ten to one, the girl friend was crying her eyes out because she had not had so much as a telephone call from Kirk for several days.

Just how many days it had been Kirk wasn't sure. As he went to his bunk and piled down for the "night," he kept puzzling over this matter of time. Without the benefit of dark nights and bright days, he had lost track of how many times the hour hand of his watch had gone round. And that wouldn't have told him anything accurate. The light gravity of Mercury had speeded up the time-piece.

But as Kirk dreamed off he kept seeing the busy scenes in the Kilhide shops, hearing the hum of machines, watching the sweating workmen with their electric torches and giant lathes. The sparks were still flying in his mind, and he closed his eyes tighter to put that vivid nightmare aside.

He had learned things out of that work siege. He had seen the admiration of every member of that little colony for the leadership of Lester Allison. He had seen the finest example of co-operation under pressure. No bickerings, no disputes, no alibis for mistakes. Trial and error had been taken in their stride. And above all, there had been a strong faith evident throughout every hour of the work.

KIRK wished that his cronies back in the New York space-port could have seen those engineers at work. They were a picked bunch. They were pioneers in this new age of interplanetary travel. And every grease monkey

from Nome to Rio would have got a new perspective to have looked in on such a show.

Kirk slept like a log.

Blang! . . . Blang! . . . Blang! . . . Blang ! ! !

Kirk groaned and roused up. "Alarm clocks! Alarm clocks! Even out in space they won't let you rest. Twenty-five thousand miles from Earth, and the darned alarm clock still hounds you. Where can a man go to get a bit of rest?"

Kirk kept on mumbling as he got into his clothes. He heard no response from Allison and decided that the latter was still sleeping.

"It's a good thing I came along, Les. I bet you'd have slept on until you crashed that shell. Hey, Les, wake up! Don't you know it's time?"

Then Kirk discovered that Allison's bunk was empty. So the seasoned space man had awakened for his appointment, after all.

Kirk rubbed his eyes and marched down the aisle to the control room to make sure. Yes, there was Allison busying himself at the telescope.

"Morning!" said Kirk. "If it *is* morning."

Allison was evidently too busy to answer. Kirk gazed dreamily through the windows. The sky was still full of blackness. A tinge of thin amber sunlight glinted off the Battering Ram's nose. That Sun was millions of miles to their rear, and the other suns—the stars—were hundreds of millions of miles distant—tiny pin-points of white light in the opaque velvet.

Vaguely Kirk realized that something was strange in this scene. He had expected to see the Earth spreading into a wide white disc right over the Battering Ram's nose. At twenty-five thousand miles it should fill a considerable share of the sky.

But it was not there, and Kirk wondered if for some reason Allison had changed the course.

Kirk studied the instruments, and the more he studied the more deeply he frowned.

"Look here, Les, what's happened to the Earth? Somehow I can't seem to get my bearings."

"The Earth," said Lester Allison, "is gone!"

CHAPTER XIV

Through Eyes Too Large to See

IN THE land of great creatures, the teacher went over certain fundamentals with his class.

Some of the pupils drubbed their seven-fingered hands listlessly, for they knew the story by heart. Others were catching it for the first time.

The teacher turned a piece of pink substance in his seven-fingered hands as he talked.

"We should stand in awe of the wonders which make up our world. This bit of fuel feels solid to our touch. I press it and it does not give. If I hammer it, it breaks, but we call it hard. If I scrape it with a knife, it crumbles into dust, but it has offered strong resistance that only a sharp blade can successfully overcome.

"But if we analyze this substance, or any substance, whether it be stone or wood, or the blood from your veins or the air that you breathe we find it to be largely *space*. But within the space there are tiny particles of energy—particles which we may call electrons. And the rapid-fire whirling of these electrons in their courses gives the atom which they comprise a semblance of substance.

"There are veritable universes of these tiny bodies of energy making up

the dust from this bit of fuel."

Then the teacher added that thought which always fired the imagination of every student.

"At last we know that certain electrons within this invisible system *do sustain life*.

"We shall never see this life. We shall never have any feeling to give it, no hatreds, no loves or sympathies. Our understanding is too shallow for that. But I say to you that if we could somehow bring to light the ebb and flow of life that is hidden here, we would spend the rest of our days marveling.

"Our invisible servants, the graduate microbes are too large to see into the the space which pervades these miniature universes. But there are other creatures, only one ten-thousandth as large as these microbes, much, much too small for us to see. Those creatures were once parasites which lived upon these microbes almost unnoticed. The microbes inform us that these unbelievably tiny creatures are green and that they have a body, a head, two arms and two legs. But to our great eyes they can never have color or form. Our instruments cannot even detect the faint energy waves which constitute light to them.

"But the miracle is this—that these little green parasites are nearly as large as some of the electrons that we are investigating. They can see these electrons. They are sure that some are inhabited. And now it is their plan to accommodate their masters and us by endeavoring to capture one of these electrons, to isolate it for observation.

"How will they do this? Obviously by methods we cannot hope to observe or understand. But we do know this. They will take great risk of life and limb in meddling with any of the established motions of these swiftly flying particles."

CHAPTER XV

Electron on a Straw

IN THE colony of civilized fleas there was a great pandemonium.

Lyon, who had grown more bombastic from the hour that the telescope had been dedicated, was bouncing around the thoroughfares, clamoring to his fellow citizens:

"This is a fine state of affairs. Why don't we do something? Get together, my fellow fleas, and demand that your leaders give you action. There's that fine expensive telescope sitting idle out on the Green Plains."

Some of the fellow fleas shrugged apathetically. They could not be bothered by matters outside their customary routine. Others were stirred, but they had no ideas about what should be done.

But the leaders of the colony were far from complacent. The pressure was upon them. Censure, too, for they had not come through with their promises.

"I knew they would not be able to do it," said Zeerat, the cynic. "Those flying balls are too big to be pulled out of their paths."

"Bah! Such talk!" Lyon was indignant. "You are always knocking, Zeerat. What a gloomy civilization we would have if everyone were like you! Give the boys a boost. Tell them you know it can be done, even if you have to roll up your sleeves and do it yourself."

"They'd tell me to do it," Zeerat growled.

"And why shouldn't you? Pitch in, my friend. Maybe you're just the man to put this deal over."

"Why don't *you* do something?" Zeerat cracked.

Lyon gave him a disdainful look.

"Me? I am the spirit of this great movement. I supply the pep and ambition. I point the way. When the job's done—"

"I know," said Zeerat, "you will take the credit."

"Exactly," said Lyon, and he puffed up his chest and marched on to continue his ballyhoo.

The thoroughfares were soon lined with anxious fleas who demanded to know what had happened to Prince Zaywoodie's promises. They turned themselves into organized demonstrators. They shouted, chanted, chased around in circles and indulged in all sorts of high-jumping antics.

At length, this clamor brought forth Prince Zaywoodie and his entourage of dignitaries. Prince Zaywoodie motioned the crowd to join him at the platform on the parade grounds. When they were assembled, he silenced them and made his report.

"Fellow fleas, the news which I bring you carries a promise of ultimate success. Our early experiments have been costly, but we are learning the way. You must bear in mind that the wheels of progress do not spin as swiftly as those balls of energy which we hope to capture.

"What have we done? I will report to you.

"Our invisible servants—the one-cells—are co-operating in a most satisfactory manner. Even now our microbes are trained upon a cluster of key one-cells, whose six arms are waving to us in symbols of our established code. And what do they tell us?

"They tell us that they have singled out a ball which is rich in inhabitants. It is this electron that I told you about before, inhabited by creatures patterned after ourselves—creatures with heads and bodies, two arms, two legs. These creatures can be seen through the eyes of our one-cells. They live in great swarms. They protect themselves with sturdy roofs and walls. They depend upon an abundance of tiny plant life for their food. They have at their command a wealth of mechanical contrivances—machines which our one-cells could see from the air—machines which would build for them, dig for them, transfer them through space or over the surface of their ball."

The great assemblage of fleas was no longer a clamoring mob. Every listener, including the blustering Lyon and cynical Zeerat, was lost in amazement.

"I am sad to report," Prince Zaywoodie continued, "that some of our one-cells did not return. Now they are imprisoned somewhere within the chosen ball. For we have succeeded at last in our first step, to draw it out of its universe of motion. Our chemists have cleverly encased it within a shell. The gases which they spread over its surface have crystallized. This shell will enable us to remove the ball from its position without injuring the life contained thereon."

The Prince explained in careful detail that the chosen electron was surrounded by gases of its own, which would serve as a cushion within the newly formed shell. Thus it was hoped that the ball might be drawn out of its orbit without being bumped against the sides of the shell which encased it.

"As you know, my fellow fleas, it is a perilous undertaking for us to insert the long straw which our master provided us to make contact with this electron. The first two starts with which we experimented were disastrous. The accidents occurred when we allowed the straws to pass too close to the nucleus of an atom. But with the utmost care we at last succeeded in reaching far into the universe to make contact at last with an electron of one

of the interior atoms.

"With this success we were able to send forth our one-cells to explore.

"Later we inserted the straw again. Some of the one-cells climbed aboard and returned. Others remained.

"Now at last we have got the chosen electron on the end of the straw and with utmost caution we are drawing it little by little out of its universe."

This announcement brought forth a prolonged cheer. For the first time in history, an electron was about to be captured.

"And so, in conclusion," said Prince Zaywoodle, "I ask you to be patient. It will be a slow process, dragging this captured ball out of its universe. We find we are dealing with magnetic attractions of surprising strength. The atom which was deprived of this electron was forced to revise its system of motion, and every atom that this captive electron passes exerts a pull upon it. We will be fortunate indeed if our prize is not disintegrated by a blast of energy from some other atom's nucleus."

CHAPTER XVI

A Girl Out of a Storm

IN THE annals of the solar system nothing like this had ever happened before. Planets had their orbits. They followed regularly through their years and days. The most that astronomers could detect in the way of change was a gradual slowing down of the system of motion.

Years ago, too many million of them to count, a fiery mass had whirled off the burning surfaces of the Sun, it was assumed, and had found its gravitational balance at least 93,000,000 miles away. This was the Earth. Its history had been similar to that of the other planets. They were the children of the Sun, and each had found its place in relation to the other.

The astronomers of the Earth had often speculated upon what might happen if one member of the solar family were to be removed. Such a conjecture was fanciful, they thought, but useful in illustrating the happy balance of forces which had developed around the Sun.

Now the impossible had happened. In defiance of all the established predictions, the Earth had become involved in the machinations of some other universe far stronger than that of its own galaxy. Not only had the Earth been captured within a solid spherical shell. It was also being pulled out of its orbit.

How could this be?

SCIENTISTS by the hundreds flew to the icebound villages of Little America to catch what evidence they could, for the pull upon the Earth's shell made contact near the South Pole. It was the actual physical tug of a tremendous beam, dark and shadowy. No one knew just when it had appeared, but the geologists had recorded seismographic records of the jolting of the Earth. This had occurred, they believed, at the moment that the shell first went into motion.

Now the dark shadowy beam was drawing the shell slowly through space. And that was what brought a physical upheaval to the Earth's continents and seas, unmatched by any phenomena since the Earth's cooling.

The shadowy arm through space must have been very flexible. Either that, the astronomers reasoned, or its action must have been guided by some wonderful intelligence. For the change in the Earth's direction of motion was not abrupt. The drawing away from the orbit was so gradual that it seemed

to be performed by a skilled hand.

"To illustrate what is happening," one of the astronomers explained over the radios, "if you tie a ball to a string and swing it in a circle, you have the Earth in its normal orbit. The string is the gravitational attraction which holds the ball a certain distance from the Sun. In this relationship the Earth has been coasting round and round for countless ages.

"The new force which has attacked it may be illustrated by the pull of a second string. If you imagine the ball to be whirling in a horizontal plane, the new force is applied vertically, as from above. And so the ball continues to swing round and round in its annual orbit, except that it is being drawn upward. The effect is spiral. But how far this will go, no one can tell. None of the other planets is undergoing such a process. Mercury and Venus are believed to have swung out a little. The other planets, too, may be making readjustments.

"But the great question is: Are we to be drawn out of the solar system? At present, it would seem that we are. This may mean that we are the chance victim of some astronomical force as unpredictable as meteors but billions of times as large. If this be true, we are in the hands of the gods. Sooner or later we are likely to crash into a star, and the Earth and all its creatures will perish."

So spoke the astronomer, and the civilized world trembled.

June Allison spent the most frantic hours of her life trying to make contact with Lester.

The wireless just would not reach through to Mercury nor to any of the other planets. Every few minutes June received a call from the Rocky Mountain Observatory, within a few hours after the lateral movement of the Earth had begun. The telephone calls and wires were coming in from all over the country.

Where was Lester Allison? How could they get in touch with him? What did he know about these strange happenings?

Some of June's friends, who had come in to ask the same questions, stayed to help her take care of the onslaught of messages.

OUTSIDE the lodge of the Allison ranch high winds were blowing. Black clouds boiled down from the mountaintops. The valleys roared with echoes of hard dashing rains. Streaks of purplish lightning stabbed down at the whipping treetops.

"I've got to be off in the space flivver," June Allison declared. "Don't know what's going to happen, but my one job is to find Lester."

The radios were crackling with static now. Emergency warnings were coming in every few minutes. The high winds were ripping the whole North American continent. Across Canada blizzards were raging.

June's friends agreed to stay and care for incoming calls. They didn't know what else to do. June thought she had never seen such terrorized faces as those of the friends she was leaving.

Alone, she went out to the clearing and checked the motors of the space flivver. As the rain streamed off her goggles, she gazed up into the black sky. It was a fearful prospect, trying to take off in weather like that. The space flivver was sturdy enough, once out of the Earth's thickest atmosphere, but accidents of the past had proved that high winds could queer a take-off.

Suddenly June was aware that an airplane was thundering along unsteadily, flying low beneath the clouds.

The plane swerved down and circled

the clearing, as if in search of a place to land.

A blaze of lightning gave June a vivid glimpse of a face at the window of the plane—the face of a young girl. She was calling to June, beckoning, and her expression was one of pitiful beseeching.

The plane circled a second time and came down in a rush of wind.

"The fool!" said June. "She can't possibly land—"

The plane touched on one wheel, ricocheting along crazily, and ripped off a wing. There was a sullen grinding and crunching of metal, then the blast of an explosion and a spurt of flame and smoke.

Instantly June was running toward the wreck.

Through the smoke a figure came stumbling toward her. And again she saw the white, frightened face of the young girl.

"Is there no one with you?" June caught the girl by the hand and led her back through the rain.

"There's no one but me," the girl said. She glanced back at the burning plane. "Whew! That was a close one. But I had to get here. I have tried for hours to reach you—"

The girl collapsed in June's arms. June looked toward the lodge, then to the space ship. She felt that she could not take the time to help this girl. The storm was getting worse. Allison was lost, and the world was calling for him.

June slapped the girl's cheeks. "Come out of it. Who are you? What did you come here for?"

"My boy friend Kirk," the girl said weakly. "He went with Lester Allison. He's been gone for days."

The girl closed her eyes again. June got the girl up and carried her to the space flivver. This youngster had nerve, all right. Together they pushed their way through the air locks.

Two minutes later they shot up through the clouds like a giddy skyrocket, outward bound.

CHAPTER XVII

Combing the Glass Walls

THE space flivver sought the highest elevation possible within the transparent shell. To June Allison and her sandy-haired companion, Diana Scott, it was a strange contrast to be soaring through this peaceful, cloudless realm.

Colored sunlight filtered through the crystal shell. The Earth was far above them now. At least, it seemed above, for June had inverted the flivver and set the instruments for automatic flying at a safe elevation, as measured from the inner surface of the shell.

In effect, they were skimming along a mile or so above the transparent floor, through which they could catch glimpses of the Sun, the Moon, and the neighboring planets. By looking through the upper windows, they saw the Earth cloaked in cottony clouds that appeared harmless here from the Sun's side.

Diana Scott understood why they were following the surface of the shell. It was a foregone conclusion that Lester Allison and Kirk Riley were not on the Earth.

"The natural thing for them to do," June reasoned, "was to get word through to the other planets. They probably went to Mercury, and now they have been left behind. Do you know where the astronomers say we are? We have already passed the range of Mars and Jupiter and Saturn."

Diana Scott's eyes were wide. She said nothing. She was a nervy little thing. If Lester and Kirk had been left behind, there was nothing she could do

about it, other than put her faith in June Allison.

"The one thing we can do," said June, "is to comb these surfaces. If Lester is still in the neighborhood of the Earth, he must be up here some place, observing everything he can."

Hours and hours of search ensued.

Every few minutes the radio brought in new and startling announcements.

Never in the annals of science had there been so many predictions of man's fate in so short a time.

"If the world is coming to an end," one astronomer observed, "it is certainly a far more spectacular end than any of us dared imagine. It seems obvious now that we are actually being lifted out of the solar system. Whether we shall be taken to a new galaxy is already a matter of conjecture."

June thought there was a certain eagerness in that astronomer's voice. These terrifying wonders were probably a fool's paradise for him and his ilk.

That the world was coming to an end was the prevalent note. Reports from far off societies in Africa told of great mass meetings that were being held. Huge sacrifices were being made to appease the wrath of the gods.

From great cathedrals in Europe religious services were being broadcast. Long prayers were being delivered, and there was nothing artificial about their fervor. In the presence of terror, millions of people were renewing old devotions. Any doctrine which offered hope to man in times like these was seized upon. It might never be known how much the world believed that man's own sins had brought about this cataclysm.

But from the reports of observers on the streets, it would seem that many forgotten emotions within the common man had swiftly risen to the surface.

"Do not lose hope," one announcer kept saying. "Stay at home. Prepare yourselves for more severe storms. This world is not lost yet. Unless the Earth strikes the outer shell, mankind has a chance to survive."

Gradually the storm warnings became more pronounced. The scientists declared that the pull had thrown the Earth toward one side of the enclosure. Consequently, as the Earth continued to spin on its axis, each hemisphere would be subjected to terrific storms every twenty-four hours. However, the Earth might not crash against the wall of the shell, owing to the fact that the air acted as a cushion.

The air, as well as the Earth itself, was being hurled to one side of the shell. This increased the violence of the storms. The friction of the Earth's turning was said to be rising with each passing hour. Soon it was known that buildings could not withstand the terrific blasts. Already some cities had been leveled.

THE last hopeful bulletin was that appeal from the Rocky Mountain Observatory. It declared that the Earth had already moved farther out from the Sun than the orbit of Neptune, and that the rate of moving was rapidly accelerating. But there was no reason to give up hope of life. After all, half of every twenty-four hour period at least was safe. And the Rocky Mountain scientists thought it worth while to keep on gathering data.

"During the night hours," the announcer said, "we urge all amateur photographers and astronomers to make the most of these strange phenomena. We urge you to take pictures of the sky. Only by a series of moving pictures which catch the entire panorama will we be able to piece together the whole story, especially the concomitant

actions of other heavenly bodies."

"Amusing, isn't it?" Diana Scott gave a mirthless laugh. "He thinks we will live to figure it out."

A little later the radios began to come through with a single ominous theme song.

"Go underground . . . take to the caves . . . no buildings on the surface are safe . . . every city on Earth is doomed to destruction . . . go underground . . . go underground."

And June Allison and Diana Scott, a few thousand miles above the agonized Earth, kept flying.

CHAPTER XVIII

Enter the Battering Ram

JUNE suddenly cut her speed. She had seen something unusual—a black blotch against the amber surfaces that were streaking along beneath the flivver.

Diana looked back. Her eyes were watery from watching, and she was holding a damp cloth against her aching head.

"Whatever it was," said June, "we are going to investigate."

She turned the space ship through a wide circle. There it was again—just a tiny dot on the crystal floor a mile beneath her. Retarding to atmosphere speed, she spiraled downward. Diana brushed her eyes and gazed.

"Careful, June, it's some sort of an explosion. There's smoke flying."

"I will be careful," said June, and she brought the ship down to easy landing a full hundred yards from the fan of smoke. The flivver wheeled up cautiously.

Until now June had had no guess as to the thickness of the crystal shell. But here it was before her eyes, a long line which represented a cross-section. It was a tunnel coming through vertically from the outside. Perhaps there was a mile or more of it. It was not quite complete.

The thing which interested June most, however, was the mechanism which was cutting the tunnel. It was a long, red, cigar-shaped space ship, and she recognized it at once as a Battering Ram.

"It isn't smoke, after all," Diana Scott observed. "It's just a lot of waves through that funny glass stuff. Vibrations, I guess you would say. What's happening? It looks as if that thing is a big borer, coming right up through."

June was so happy she could hardly answer. "It's good news; that's what it is."

Twenty minutes later the Battering Ram nosed up through the surface and came down with a bouncing motion upon the smooth amber floor. The great boring mechanism on its nose idled to a stop.

June wheeled the space flivver around until it was within fifteen yards of the mammoth Battering Ram. Then at last the radio brought her something besides the bad news from the Earth.

"June Allison! As I live and breathe! Greetings from Mercury!"

June could almost feel Lester's arms around her, the way he was chuckling into the microphone.

"We've been chasing the Earth ever since the day before yesterday. Twice we thought it was a losing race. But after we finally caught up, it didn't take us long to get a solid hitch. Did you see how we cut our way through? Say, what are you doing up here anyway?"

"Looking for you," said June. "We have been combing the skies. We just got away in time. The storms are furious. They say that cities are being blown down."

June and Diana could hear the two

men mumbling to each other.

"We are not surprised, exactly," said Allison. "We could see that the Earth was off center inside this shell. The shell is turning, too, only not very fast. When we first hitched on, this side was nearest the Sun, and the Earth was already leaning that way. We had better get together on our planes—"

"Aren't you going to let me talk?" Diana Scott suddenly exploded. "Is that dark man with all the whiskers by any chance Kirk Riley?"

"Diana, darling! Is that you?" came Kirk's voice.

"Gee, honey, I was so afraid—but you are really alive! Put your face up to the window so I can see you."

A somewhat bewhiskered Kirk could be seen grinning from the side window of the Battering Ram, waving and making comic motions. Then there was more rapid-fire chatter from the radio, with such heart-warming sentiments that Lester said he would have to put a stop to it before someone burned out the wires.

It was not advisable to transfer from one ship to the other, partly because of the rarity of the atmosphere, partly because the gravitational forces at this point were almost perfectly balanced. The ships barely clung to the surface. It was reasonable to guess that they would have descended to the Earth if that planet had been more nearly centered within the shell.

"I have just one wisp of a plan at present," said Allison. "If we are doomed, we are doomed. But I have a hunch that before the Earth checks in I may learn something from Professor Haycox. Have you kept in touch with him, June?"

"He kept calling. He wanted to see you again. But he didn't give me any message."

"Are you game for a flight to his laboratory? It has probably been blown to smithereens. But he had a queer biological specimen laid out on the basement floor when I was there last. I want to see it again. We may have to dig through snow to find him, but if you are willing to take a chance—"

"We are on our way," said June.

CHAPTER XIX

The Professor Has the Blues

IN THE blinding blizzards, nothing but mountain landmarks could have shown Allison the way. But at last he and his party fought their way through the makeshift storm barriers which had been erected out of the ruins of some of the Institute buildings. Like burrowing animals they padded along through the icy tunnels, and at last they were within the basement rooms of what had once been the Institute.

Professor Haycox and his staff, such of them as remained, were a silent and dreary lot. They were stupefied by the swift destruction that had come upon them. Most of their projects had been ruined completely. A few experiments which had been located in the lower rooms were still being tended by half-hearted laboratory workers. No one could see the use of going ahead with such things. Every radio report indicated that the Earth was being accelerated in its movement away from the solar system. The end might come any time.

Allison and his wife and Kirk and Diana could readily appreciate the tragic spirit that had settled upon this place. They joined the others listening at the radios. They all but lost track of time as the new astronomical developments came to them.

Now and then the story of tragedy

was brought home by some pitiful account of rescue workers. For the most part, the cities had been obliterated. The sturdiest of buildings had not been constructed to cope with such windstorms as these. People were said to be swarming into the tornado-proof tunnels that had once been subways or underground freight lines or water mains.

For a time Lester Allison did not have the courage to approach the despondent professor. Whatever mysteries there might be waiting to be answered by evidences stored here, Professor Haycox seemed likely to let go the way of all his ruined experiments.

But the monster brain was still intact, and Allison and his companions spent many hours gazing at it.

It was now submerged in a preserving fluid in an immense glass jar. Other jars held other fragments that had been salvaged. A plaster of paris model showed what sort of creature the owner of the brain had been.

It was a starfish-shaped beast, similar to those which Allison and Kirk had followed out into space.

The professor's clay model coincided with Kirk's mental picture of those huge, shadowy, six-armed monsters. Newspaper clippings proved that several specimens had been seen and a few of them captured.

No scientist had any satisfactory classification for them. Nor any name. They were variously referred to as "flying brains," "other-world squids," and "flying starfish." Their brainy heads formed the center of their puffy gray bodies; their arms were not the slender tentacles of the squid, but rather the well-spread points of a star. The name "flying starfish" was generally accepted.

They could fly swiftly or drift along motionlessly like a lazy balloon—almost always with their arms extended horizontally. No one had been attacked by them. But when they first appeared, before the Earth was hurled out of its orbit, many people were thrown into a panic when star-shaped shadows half a block long passed over them.

Professor Haycox was in no mood to concentrate on these matters. Like the rest of the human race, he had a bad case of the blues. Could anything less than a final, all-consuming crash be in store?

But as days went on it was inevitable that men should not accept this doom lying down. That fortunate share of the Earth's population whose lives had been spared did more than simply dig in. They began to plan for underground lines of transportation, underground dwellings, complete subterranean cities.

Even while they were imprisoned beneath snowdrifts at the Institute, Professor Haycox and his companions found themselves inevitably building up schemes for getting back on their feet, figuratively speaking.

The surfaces of the Earth would somehow be utilized, of course. And if the destructive winds continued at regular twenty-four-hour intervals, man's work in the fields and forests would simply have to be confined to the hours of calm. It was conceivable that new types of grain and trees could be developed to withstand the daily lashing of the tornadoes. In time, sturdier breeds of domesticated animals might possibly adapt themselves to the new conditions.

But these hypotheses were dealt a severe setback two or three weeks after Allison and his party came to the Institute. A new phase of the Earth-wide catastrophe swept in. For the time being all hopes were blacked out.

CHAPTER XX

Across the Universe

"GO UNDERGROUND! . . . Go underground! . . . The Earth is going to crash the shell! . . . The American continents are about to crash! . . . Go underground! . . . Go underground!"

Lucky for mankind indeed that the preliminary accelerations had already prepared him for taking refuge in caves and tunnels and basement rooms. The impact of tornadoes and hurricanes had been nothing to what came now.

To Diana Scott and Kirk Riley and their associates at the Institute, it began with a trembling of the floor under their feet. The walls quivered, and every few minutes a test tube or some other bit of delicate laboratory equipment would snap and crash to the floor. The radio was full of terrifying reports of earthquakes.

But by midforenoon the ether waves were choked with static, and soon all North American stations were off the air. By that time Kirk could hear the growing rumble of thunder.

That roar was afterward referred to as the End of the Earth.

To the generation of human beings who lived through that day and the two days that followed, no more accurate designation would be possible. For few and far between were the persons who did not believe that that prolonged thunder signified *the end.*

But such was not the case. On the fourth day, when the deep-throated death groans of the Earth ceased, and even the regular high winds began to subside, men climbed out of their foxholes to see what had actually happened.

The Earth had bumped against its shell. The friction of its great rotating body had cut deep scars in those glassy surfaces high overhead. But the effects upon the Earth itself had been far more pronounced.

"It's like when you make a machine," Kirk observed to his space hero, "and you have to provide for a friction surface. You fix it so that one of the two rubbing surfaces will take all the wear and tear. Whatever space god worked up this deal fixed it so the Earth would take all the hell."

This was putting it mildly. Between the abrasive action and the accompanying earthquakes the tops of mountains had been rounded off, seaboards had been flooded by oceans on the rampage, sporadic fires had wrought further destruction among the ruined cities.

"Your principle of two rubbing surfaces," Allison commented, "assumes some intelligence. One part of a machine is made to take all the wear so that only one part will have to be replaced. But where's the chance of ever replacing a worn-down Earth?"

"I dunno," Kirk replied blankly. In his mind full of mechanical principles there was only dizzy confusion when he tried to conceive of "space gods" powerful enough to perpetrate these doings.

"If there's some great power back of it all," Kirk decided, "that power probably doesn't care if the Earth gets smoothed and polished up a little. And maybe folks like us don't matter at all."

The tone of this remark was disturbing to Diana Scott. Tears suddenly filled the eyes of the girl friend from Brooklyn. Kirk couldn't understand what was the trouble.

"Folks like us do matter," Diana sobbed. "Anyway, you matter, Kirk. If it weren't for you I wouldn't want to go on living."

"There, there, honey, I didn't mean anything. It's just hard to figure things out in times like these, that's

all." Kirk was floundering. But Diana's convictions had stood the test of fire already, he realized.

"Poor kid, she's been running on nerve," said June Allison. "She hasn't had an hour's rest from her worries since her plane crashed."

"I'm all right," the younger girl said in a muffled voice.

"I'll say you are," June declared. "But you need some rest. I'm going to take care of you."

And so it happened that June and Diana missed out on the next few flivver hops into space.

THE Earth was being pulled along at such a terrific speed by now that the Milky Way was left behind. New galaxes were being passed. Thousands of new stars and planets came into view. But the nearest of these bodies had to be photographed on the fly. Some of them were only momentary streaks of light.

The universes were fairly spinning. The Earth's astronomers, the fortunate ones who had escaped injury from the storms, became the most important of living men. When the daily presses resumed work it was the astronomers who made the headlines. They pressed into service great numbers of photographers and space navigators. Allison and Kirk, along with several dozen less experienced pilots, were kept busy.

It had been discovered that the passing stars could be seen more clearly through certain unscratched areas of the great shell, and upon some of the better observation areas telescopes were planted. The tunnel which the Battering Ram had once drilled had closed under the massive pressures of the transparent substance. Nevertheless, there was talk of drilling another such hole if a plan could be devised for filling it with a mile-long telescope that could resist the compression.

Allison's flights to the shell gave him a chance to listen in on the conferences of the bewildered scientists. He retained Kirk Riley as his assistant, and between the two of them they kept tab on the course of the Earth's weird race through the universe.

Professor Haycox had allowed Allison to study the great brain, between space flights. But Allison was still disappointed in the professor's attitude of secrecy regarding his find.

"You've never called in other biologists for a look at that mountain of gray matter?"

"No, not yet," the professor said, half apologetically. "The storms disrupted everything. If the Earth settles down so we can get something done, we'll go ahead with our secret studies. If the Earth is doomed to crash, there's no need—"

"Let's assume it isn't," said Allison. "The astronomers say it's being pulled through a thousand gentle curves. It swings clear of so many danger zones that its course can't be an accident. The astronomers think we're being towed."

Professor Haycox nodded knowingly. His beaming bespectacled countenance was reluctant to reveal that he sometimes didn't know all the answers. "Towed? Yes, of course. Indeed we're being towed. But by what, or whom?"

"By something intelligent," said Allison. "By something that knows about the gravitational pull of the great bodies we're passing, and the heat of the stars, and the dangers of passing too close."

"Exactly, exactly," said the professor, nodding from Allison to Kirk as if this theory were his own brainchild.

Professor Haycox knew very little about astronomy. His eyes were habituated to microscopes, not telescopes.

But he yielded to the persuasion of

Allison and Kirk and accompanied them on a few of the frequent space trips.

"Get an earful of those astronomers goin' to town," Kirk would say, as the party of scientists on the observation level would go into conference.

"And take note, Professor," Allison would add, "that they're pooling their knowledge and co-operating."

It was hard to tell whether Haycox was impressed. At any rate, these trips were good for his frayed nerves. He began to accept their viewpoint. The Earth wasn't skyrocketing through the heavens on a blind fall. It was dodging danger too skillfully.

There was hope in that theory.

But another theory, interlocked with the first, rode in on a fresh wave of terror. The wise astronomers themselves were chilled by the implications of their findings.

Ahead of the Earth's course something was causing a few of the heavenly bodies to bounce a little way out of line. As if some huge object were running ahead of the Earth, bumping them or *stepping on them.*

It was a theory that defied proof, and the evidence was slow accumulating. By now the Earth's speed was so much greater than the speed of light that the scientists were forced to rely on the subtle messages of pre-light vibrations.

Gradually the facts which there was no time for light to reveal were captured by other means.

The stars were not being disturbed—only a few of the large, non-burning planets around them. As if some mammoth sky monster were running ahead of the Earth, pulling the shadowy beam attached to the "south pole" of the Earth's shell—as if this sky monster were bounding from one heavenly stepping-stone to another.

As if this monster had a stride that had traversed numberless Milky Ways in a few swift bounds!

As if this monster had the sense to pick its step *without treading on hot stars!*

And now came a further discovery that made the scientists gasp for breath.

On three or four of the passing planets the pre-light vibrations revealed *mammoth footprints,* smoking hot, as wide as a continent—only one footprint to each planet!

CHAPTER XXI

Big Brains No Significance?

IT WAS a breathing spell for the Earth to be shooting through the series of galaxies at a regular speed.

Philosophically minded persons took advantage of this respite for discussion and gathered new courage for the dangers that were doubtless ahead.

Kirk Riley went back to his New York space port. He looked for his old cronies. Many of them, like himself, had gone to new jobs. But his girl friend found that nothing was the same in Brooklyn. The catastrophes had struck heavily upon the eastern seaboard.

The few friends that Kirk and Diana found were glad to know of their new connections with Lester and June Allison. Eyes would grow wide at the mention of these names. It was obvious that the Allisons were ranked high among the leaders who offered hope to this shocked civilization.

The couple returned to the Rocky Mountain resort, and Diana remained there to assist June, who was providing transportation for the observatory astronomers.

Allison was gone again and had not been heard from for three days. Word from the Institute was vague.

"Allison is probably around," said Professor Haycox over the telephone. "He's been rummaging through the laboratory at will. The last time I remember seeing him he was taking down some notes on that monster brain."

"Will you have him call me today?" June requested.

But no call came, and Kirk flew back to Canada to join his hero there.

"No, I can't tell you where he is," said Professor Haycox. "It's all I can do to keep track of myself."

"What did he say when he talked with you last?"

"He wanted to know what happened to the man who took the pictures of the brain. And he asked about the pistol that contained the movie camera."

Kirk frowned. There was something he had almost forgotten. Lots of unfinished business had resulted from the recent astronomical upheavals.

"If I remember right," said Kirk, "a fellow by the name of Bill Kite was going to whip me. I wonder if he lived through all this trouble. And 'Champ' the gunman—"

The professor was preoccupied with troubles of his own, but Kirk continued to question him and at length got a glimmering of what had happened to the daredevil who had come in with the camera pistol.

The fact was that "Champ" had made a useful person of himself for a time after the Earth shocks began. The professor had released him from his bonds, and Champ had pitched in to help clear the wreckage and build barriers against the descending blizzards. After that, everyone had lived down in the basement rooms. All jealousies had been forgotten in the presence of these new terrors.

But after the blizzards and storms had subsided and a few makeshift transportation lines had been set up, Champ had shown signs of restlessness. Then one day he was gone, and the pistol camera with the films had gone with him.

"Does Allison know all of this?" Kirk asked.

"Allison was the one who discovered the film had been taken," said the professor.

"I think I will go over to Ubruff's."

AT UBRUFF'S Laboratories Kirk was gratified to discover that the leading scientist was not an ogre. He had known of Haycox's suspicious manner. It was hard to believe that he had sent gunmen out to claim any prize specimens or fossils.

But scientist Ubruff did know about the great flying starfish. In fact, he had managed to secure three of the live ones which had been captured in that part of the country. Neither they, nor the film of their brother's brain, however, had yielded any information of significance, Ubruff said.

"That being the case," said Kirk, "you no longer have any interest in the dead one over at the Haycox Institute, I presume."

Ubruff shook his head. "Some of my men were over-eager about the starfish brain that Haycox salvaged. Whenever they heard of anything new they raced for it. But I have discharged them. Moreover, I have rid my laboratory of the three live flying monsters."

"You got rid of them?" Kirk was greatly surprised. "You mean you killed them?"

"I sold them to another laboratory," said Ubruff. "They were too expensive to keep, and the tornadoes wrought havoc upon our animal pens."

Kirk took his leave somewhat disappointed over his conversation with Ubruff. If there had been anything remarkable about the flying starfish,

Ubruff wouldn't have let them go. But evidently that scientist considered them a bad bet. Big brains, no significance.

Professor Haycox had likewise failed to make much of his specimen. Kirk knew that he had a report half prepared that dealt with the areas of the monster's brain, making comparisons to the human brain. There was a little novel interest in the discovery that the beast's brain areas of his motor activity were merged with those of speech—or so it would seem if the comparison to man's brain was a fair one.

But neither Haycox nor Ubruff had any theories as to the origin or purpose of these monsters on this planet.

At the next laboratory Kirk found he was still on Lester Allison's trail. Here the story was the same. This fountain of science had also acquired a few of the captured beasts other than those bought at Ubruff's. But here the conviction was strong that astronomy, and astronomy only, deserved the attention of scientists during these times. It was not a moment to be expanding in other directions.

"We sold the whole lot of our flying starfish to the Ohio Zoo—yes, I think that's where your friend Allison went. I don't know whether he was interested in the monsters or their caretakers. You see we acquired some workers from the Ubruff Laboratories—men who claimed to be expert at handling these beasts."

Kirk extended his thanks for this information and betook himself to the Ohio Zoo.

Before the storms the Ohio Zoo had been the country's finest. Its pens were large enough to give all animals free range. Lofty structures as high as skyscrapers had housed the eagles and condors and other bird life.

Part of these pens were being reconstructed following the devastation. And Kirk could see from a distance, as he taxied toward the place, that the live six-armed starfish were here, imprisoned in a half mile of pens over the hilltop.

Kirk walked around this structure. Through the lofty grill of bright steel bars he could get a clear view of that nearest beast hovering high in the air. It might have been a gigantic spider suspended from an invisible web. But no, it was supporting itself by stationary flying. The gray finlike flaps along each of its six outstretched arms were barely in motion.

"What a strange creature!"

"Patient old brutes, aren't they?" said a familiar voice at Kirk's elbow.

"Can this be Curator Allison?" Kirk asked, extending his hand to the veteran space man. "So you have become a collector of fifty-ton spiders."

"They are not mine, sorry to say. But they are as interesting as a herd of elephants. I have decided, Kirk, that if I get ready to take a vacation I will buy a cot and camp right here where I can look up at them."

"Strange ambition," Kirk commented, "but I suppose you are turning biologist. I know of one perfessor who gave his life to the study of snails."

"They are all of fifty yards long," said Allison, "from the point of their longest arm to their shortest."

"I supposed you crawled up there and measured them."

"I measured the shortest," said Allison. "They run pretty even, don't they? But you would be surprised. They have their individual differences. Now, you take those three over in the far corner. They are not only smarter, but they are active. Maybe some of these others are sick."

KIRK studied Allison's expression curiously. The more Allison

talked, the more he seemed to be in earnest. Kirk gave up trying to identify the expressions of intelligence which his friend attributed to these animals. But Kirk saw more than he had seen in the first place.

Most of the beasts continued with their gentle motions, and if one watched them closely, it did seem that they were particular which of their several arms they chose to move. So soft was their skin that these fan motions were made in complete silence.

"Do you see those men across the way?" Allison asked. "They are the new caretakers. They used to work for Ubruff's. We had a little tussle with one of them at the Haycox Institute."

"Champ," said Kirk. "I remember him. And that taller fellow looks like Bill Kite. Do the boys know you?"

"Oh, we are quite buddies. They have what they want, and they don't mind letting me sit around like a schoolboy at a circus."

The manager of the Ohio Zoo came to the pen a few minutes later, and he and the group of caretakers fell into a noisy argument.

"We have got to get rid of them," the manager asserted. "It costs too much to feed them."

There was considerable quarreling, and it continued until Allison and Kirk strolled over and called the manager aside.

"How much?" Allison asked, "would it take to keep feeding these monsters for another month?"

"Too much. The Zoo Board says we have to get rid of them."

"If I could collect a five thousand dollar donation," suggested Allison, "would you go on with them?"

"These are not times to be throwing money into dumb beasts. We can't even collect taxes. When we got them in here, we thought we could bring the crowd back. But everyone's too busy building. We're losing money."

Allison repeated, "Would five thousand dollars change your mind?"

"Well, at the rate they eat it won't take them long to run through it, but if you know where we can get five thousand dollars—"

To Kirk's bewilderment, Allison wrote a check for the entire sum.

"There. Treat them right. Don't let them go hungry."

CHAPTER XXII

The Earth on a Tripod

SOMEWHERE on the outer limits of the universe the Earth came to a gradual stop.

This was a strange experience indeed for the denizens of this solar planet. No one could get used to the idea of days without a succession of light and darkness. But now there was a soft white light on all sides of the planet. The shell which had once given a yellowish cast to the sunlight was still hovering round the Earth, but the swift race through space had transformed it into something clearer. People could gaze through it as if it were a thin pane of purest glass—an endless window curving three thousand miles above the Earth's surface.

Astronomers thought that their telescopes could discern signs of their own lost universe. But all this new outlook was so vague that the Earth had lost its sense of direction.

The new objects which loomed up were huge shadows like heads as large as little moons. Sometimes these shadows came quite close to the outer shell, and it could be seen that they were not only heads but also bodies. In size they compared with the largest continents. Under certain light these

bodies had a greenish cast. If the Earth had been back in its own orbit, these unnatural appearances would have been unnerving. But mankind had already gone through the crisis of facing ultimate destruction, and had been left stunned, fatigued. Like one who has gone through a thousand deaths and still finds himself alive. Mankind was slowly rallying.

"We're seeing them at least," was about all the astronomers could say. "We knew there were few tracks along our trail through the universe. Here then are the creatures they have clambered through the planets, dragging us away."

The astronomers were baffled by the base upon which the Earth had come to rest. They could not determine whether it was a dead star or some new type of heavenly body. Through their telescopes it appeared to be flat rather than round—a floor that stretched endlessly until its smooth surface was lost in the purple haze of distance.

Three great towers had been built upon this floor to form a sort of tripod. Upon these three towers the Earth's surrounding shell had been placed.

Oddly enough, the gravitational forces were too slight to draw the Earth down to the bottom of the shell. Instead, it remained centered. Its own gravity had undergone very little change. The pull of the moon and the sun upon the tides was missing. The effect of such bodies upon the weight of all things on the Earth had been lost.

The cushioning effect of the air had played its part in more ways than one. The friction had slowed the Earth down. After those terrible times when the Earth and its shell made contact, the speed of rotation had gradually diminished.

Now the Earth hovered like something lifeless within its glass prison. Its people would look out upon the moving shadows and call them "green moons." Already man was nerving himself to explore the unknown.

Among the green moons and green Milky Ways—the heads and bodies of those great creatures outside the shell —something else was distinguished. At first it was called "the black moon." Telescopes revealed that it was an instrument whose cannon-like projection was pointing at the face of the Earth.

The green creatures could be seen manipulating this dark instrument so that its shadowy barrel aimed first at one continent and then at another.

Conventions of space men and astronomers met to consider what might be done. It was taken for granted that a weapon of some sort was being made ready to effect the Earth's complete disintegration. This black moon was nothing more nor less than a gigantic cannon. One blast from it would blow the planet into smithereens.

Pictures of the instrument were assembled from a series of gigantic photographs. Every newspaper carried a series of these, and each day other details became more refined. At last earth men knew the terrifying truth, that the great green two-legged monsters were settling themselves down into the seats on either side of the leviathan cannon. They were operating wheels and levers which turned the instrument and adjusted its length. The great barrel would center upon a single point for a time and follow it with the Earth's gentle turning.

WHEN the people of this chosen region were told that they were directly in line with the aim of the instrument, they were losing no time moving themselves from this spot. It was a natural thing to do, though the astronomers chided them for their trouble.

If an explosion was destined to come from that cannon, the whole Earth would be gone at once.

There were great speculations on the possibility of a mass migration.

"We're in a trap," the news commentators would howl. "Death is in store. We don't know what lies beyond this shell. But there must be atmosphere, and that is enough. Why don't we have our expert space men cut tunnels through this shell and take us out of here?"

"We can't agree with those calamity howlers," the astronomers would retort, "who assure us that there is atmosphere outside our shell. There are living creatures, to be sure, but we are in another universe now. We do not know whether these living creatures require air to breathe, as we do, or whether they run on some other kind of fuel. However, if the expert space men are willing to make an expedition to investigate the conditions that lie beyond, this should be done at once."

The space men answered this challenge. "We are probably too late. All the space ships in the world could not handle one percent of the Earth's population for an immediate mass migration. For years we have argued for huge space fleets, but our argument has been ignored. Whether there is any escape for us, it will soon be known. We can break through the shell. The Battering Rams equipped with augers are equal to the task. And everyone knows we can count on Lester Allison to lead the way."

Something in this proposal caught the imagination of the people. No longer were they paralyzed with fear. This panic in contrast to former ones was a call for action.

"Build more ships! Cut tunnels through the shell! Break away from this civilization! Start afresh!"

Perhaps it was more a mania of unrest than a sane, calculated plan of action. The conservative engineers were sure that the proposal was utterly impossible.

Kirk Riley was one of the first to go to work. He knew the Battering Rams by now, and he had helped Allison with one drilling job. While other Battering Rams were being prepared with the automatic boring mechanisms, Kirk selected a crew of his own and opened his power drive upon the crystal wall.

Meanwhile, June Allison and Diana Scott went to the Ohio Zoo to appeal to Lester. Their meeting was disheartening. Allison did not want to talk. He was taking a vacation, he said.

They came away resolved to leave him alone until he had had a rest. It was true he had been under great pressure in recent weeks.

But the space men were sending out such urgent calls for him that June decided to make another effort. She and Diana Scott enlisted Professor Haycox in the cause, and the three of them went back to Ohio.

Haycox was not much help. In the presence of these huge specimens, flapping silently against the top of a pen, he was something of a goggle-eyed schoolboy himself.

"I think it was a mistake," June whispered, "for us to bring him along. Now we can't get a word out of either of them."

"I was that way the first time I saw an elephant," said Diana, "but those boys act a little goofy to me. 'Scuse me, June, I didn't mean to insult your husband."

"That's all right. I know Lester's not goofy." But June's voice was troubled.

Then, to make matters worse, the manager of the zoo sauntered past and

made a comment.

"Were you noticing that tall, good-looking fellow sitting over there on the bench? Well, he sits there all day long, just watching. It's too bad, isn't it? But don't be afraid of him. He's harmless."

CHAPTER XXIII

Bright Lights for Starfish

KIRK was a hero now. He had succeeded in cutting a straight tunnel through the shell. He had gone out and come back and lived to tell the story. He had even taken the supreme risk of drawing breath while outside the shell. Yes, there was oxygen to be breathed.

The air had been so thick, in fact, that he had not chanced a long flight outside the shell. The friction was as great as at a takeoff from sea level. But he had gone far enough to get a clear view of the amazing green creatures. He had been much too small for them to see. He had flown around the head of one and had circled back between the creature's horns.

His most startling news from this expedition was that he had seen no signs of any ammunition in the vicinity of the weapon. He believed that it was not a mammoth gun, but a telescope.

In the next few days other space travelers ventured out to corroborate these findings. They came back with tales of an endless host of the great green creatures, who were said to be parading along the flat green plain.

These discoveries were revolutionary. The whole program of space ship building was temporarily shelved. If no gun was going to blow up the Earth, the migration would be folly.

The new plan was to cut more tunnels through the crystal wall and build within them colossal telescopes.

This plan received immediate action from the heads of the various scientific groups. Since the job would require much co-operation between space men and other engineers, they decided that Lester Allison should be called in to direct the project.

Kirk conferred with June and Diana on this matter. He could not understand their reluctance to ask Lester to accept this responsibility.

"But he's the only man for the job," Kirk insisted. "Everyone says so. I will go to him. He will be rested up by this time."

Kirk found Allison perched high in the side of a concrete cliff which had once been the domicile of the monkeys. It was raining, and Allison called down to Kirk.

"Come on up. It's dry up here."

Kirk circled the stony path and presently found himself under the ledge of concrete. He removed his raincoat and settled down on the burlap rugs.

"Well, Les, this is a surprise. So you've turned monkey. Nice little cave you've got here. Kind of lonely, isn't it?"

Allison laughed softly. "A little, but I don't notice that as long as I am busy."

Kirk scrutinized the surroundings. He saw nothing that had the remotest connection with space ships or flight plans. A dim electric light burned overhead, and wires were strung around. There were papers with sketches of the flying starfish, some of the arms turned in curious positions. These, and the wires, and a set of electric switches, were the extent of Allison's scientific equipment.

"You don't have much to entertain yourself with," Kirk observed.

"I still have the flying starfish. There's an excellent view from here.

Not so good just now, with these clouds spilling down."

"You have a radio?"

Allison patted the pocket of his space coat. "Can't get over the habit of relying on a portable. I must say the news has been better the past few days."

"All right, you know what's going on. There was no point in my coming here. You know you have been appointed Director of the new projects to get outside the shell. They are going to start with telescopes, but the big plan is still to locate greener pastures somewhere beyond."

"Something tells me," said Allison, "that there will never be time to do much exploring beyond our present position."

"Why? Do you have some inside dope?"

"Not a bit. I just hear the radio reports. But I know what I would do if I were one of those great green creatures outside the Earth."

Kirk narrowed his eyes. "Don't tell me you are studying these flying starfish to read the thoughts of other world creatures."

ALLISON smiled. "Not a bad idea at that. But here's the point. These creatures, whatever they are, have gone to lots of trouble to pick us out of the middle of our universe. It's obvious that they sent these flying starfish to do the preliminary surveying. Now that they have followed through and captured us, do you think they are going to stop?"

Kirk was puzzled. He could not see his way through Allison's thoughts. He took refuge in a facetious comment. "So you said to yourself, 'It's time to take to the caves. Let the rest of mankind look out for itself.' You will go back to Nature. Maybe change back into a gorilla or something, and be safe. What's the game, Allison? Trying to turn evolution in reverse?"

Allison laughed, and for a few minutes Kirk felt that he was back on the old friendly footing.

"But here's what you have to consider," said Allison. "These green creatures will go right on with their investigation. This big telescope they have turned on us is just the beginning. The next thing you know, they will be collecting human specimens by the hundreds and putting them under the microscope. Wouldn't you do it, too, if you were they?"

The clouds thickened until the soft light of the eternal day was almost lost.

Kirk could barely see the huge starfish in the wide pen on the nearby hilltop.

"Some of these times," said Kirk, "they will pull away from you in a heavy fog. Anyway, if they get smart enough, I have a hunch they could tear those bars apart and fly off."

"I keep a light burning for them," said Allison. "When I show you this you will think I am very fond of them. Well, I am. I am devoting the rest of my life to writing a book on the home life of flying starfish."

Allison pressed a switch, and a cluster of light bulbs flashed on in the ceiling of the hilltop cage. Looking up through the rain, Kirk could see that those lights formed the shape of a star with six points. Another switch brought forth another illuminated star nearer at hand. Until this moment Kirk had not noticed the similarity between the top of the pen and an electric signboard. When he had flown over, Kirk had looked down upon this pen. It was fully half a mile long, and its thin steel bars were almost invisible from the high altitude. What Kirk had seen was simply the dark forms of the starfish

themselves, black against the wide white concrete floor.

"When I flew over I could hardly see the pen," said Kirk. "What I saw looked like a bunch of black stars waving their points. You must have had a sweet time climbing over that network of steel, stringing up your lines. What's the idea? Trying to teach the brutes to play night baseball or something?"

"Just a little notion about experimenting," said Allison. "I will give Professor Ubruff some credit for helping work out the idea. He used to experiment with the electric light bulbs and goldfish, he said, with the most amazing results. But this sort of thing takes a lot of patience, and the professor had worn his patience down on the goldfish, so he left this to me."

Kirk was staring at Allison now, and for some reason he recalled the troubled expressions of June and Diana. Was it possible that Allison had become so fatigued or worried that he had suffered a mental lapse?

"I think I will be going," said Kirk. "If you need me you can get in touch through the Rocky Mountain Observatory."

"Come again," said Allison, "and notice how that big starfish down at the end is performing. I'll leave the lights on while you sail over."

Out of hearing Kirk found himself muttering aloud.

"Performing starfish! Great stars and planets! How can a space man like Lester Allison fiddle his time away trying to make pets of these fifty-ton brutes? It don't make sense!"

As Kirk's plane lifted, he circled for elevation and got another sight of the pen from overhead. A huge six-point star of light showed through the fog. Allison must have been busy at the switches, for the points were being made to wave around in different positions. But the most startling thing was that a huge black starfish could be seen directly below the lights, waving its arms. The one great arm remained stationary. The other five continued to shift positions, and with every shift of the starfish Allison was making the lights change accordingly.

"Now isn't that a happy little game?" Kirk muttered in disgust. "The starfish calls the tune and Les plays it on his organ of electric lights."

CHAPTER XXIV

Rewards for the Gang

ALLISON was dead right about one thing. These great gray monsters with their six flapping arms were the servants of the immense green creatures of the outside world.

This was proved a few days later. An alarm from the vigilant watchers at one of the observatories first sighted the invasion of these smaller foreign creatures. The warnings spread around the world in a flash. The great shadows from outside the shell had cut an opening on one side and had released through that opening fifty or sixty of the flying starfish.

Newspaper presses hummed. Extras were on the streets within a few minutes. And newer underground cities came to life with the fearful realization that they were no safer than the rest of the world. This might be the beginning of a much greater invasion.

The civilized world knew by this time that these creatures were no strangers. From the earlier samples, people had retained their mental images of the long, shadowy, gray creatures.

Rewards were offered at once.

If there were only fifty or sixty invading starfish, the space hunters might make short work of them. Along moun-

tain ranges and waterways many hunters gathered to keep watch. The coast artilleries of some countries were mobilized. These creatures would be fair game, and the reward was enough to make the hunt worth anyone's while.

Every few minutes the radios would report that a flock of strange birds had been sighted in this region or that. Kirk Riley excused himself from a conference with the central committee of the Migration Planners. He made for his airplane and headed straight for the Ohio Zoo. He radioed ahead. But he could get no answer from the Zoo's office. Why not?

Before he landed he know that his hunch was a good one. Other visitors were ahead of him, and they had come, Kirk was sure, to make trouble. They had brought an army tank. A truck might have been too light. They had come to *steal* a reward.

Kirk landed on the field at the edge of the Zoo grounds. He made sure the revolver he carried was loaded. As he bounded up the steps toward the tiers of sillside cages, he could hear the clanking of steel against steel. He dashed toward the old pen which Allison had made his cliffside home.

"Allison! Allison! Are you up there? Do you know what's happening?"

No answer. Kirk raced up the cliffside path and ducked under the ledge. A little yellow light was burning. The electric wires and switches were in a tangle. Kirk could see, from the rumpled condition of the burlap rugs, that there had been a scuffle. Fresh scratches marked the dust down the side of the ledge.

"Allison! Are you down there?"

Kirk looked for something to hold him in his climb down the step bank. He seized upon a stray electric wire, fastened an end of it around a pillar of rock, knotted a loop in the other end and swung down.

Now he discovered bloodstains on the lower ledge of concrete, and a little farther on he came upon the figure of Lester Allison, lying in a heap.

"My stars and comets! What have they done to you?"

He bent down to slip an arm under Allison's shoulders. The poor fellow had toppled and fallen, like a wedge between stone. Must have cut his breathing to almost nothing. Kirk worked on him.

Allison began to groan and gave with a heavy sigh. His lips were bleeding; there were minor gashes on the side of his head. His eyes were half open.

"Come out of it, Les. Wait, I'll get some water. Take it easy now."

WHEN Kirk came back with the handkerchief he had soaked in a nearby pool, Allison was sitting upright.

"Here, I'll take it," said Allison. "Don't mind me. Go after those rats."

"You'd better lie down and forget about them. I knew the minute I heard about the reward that Champ and Bill Kite and the gang would be right over here."

"Have they caught any yet?"

"They are about to get one."

Kirk looked across the hilltop. The seven or eight men had succeeded in fastening a chain on one arm of a starfish. The other end of the chain was attached to the army tank. Now the men were trying to break a wide opening through the bars so they could drag the beast through.

"Don't let them get away," Allison groaned. "Shoot 'em if necessary. Wait, I'll go with you."

"You'll stay right where you are," Kirk demanded. "Leave it to me."

"Go back to my cave," said Allison. "There's a revolver back on the shelf

at the left. A little more of this water and I'll be back on my feet. I'm not hurt, just stunned. They pounced on me without warning. I think they've knocked out the whole camp."

Kirk made his way back to the cave and found the extra gun. But when he returned to Allison, the latter was lying down.

"That's good," said Kirk. "You stay right here. I don't think they'll come back—"

"You stay, too," said Allison. "Get down—out of sight!"

"But I'll be careful. I'll slip up on the blind side—"

"Get down, I tell you," Allison snapped. "Do you see that cloud—that *streak?*"

Kirk fell silent. He was looking up into the sky, trying to locate whatever it was that Allison saw. But now his attention was distracted by the curious antics of one of the starfish nearest the end. The creature was waving its many arms in slow rhythmic regularity. Its longest arm remained motionless. The others kept swishing through the air, as if participating in some weird ritual.

Then Kirk saw the dark streak overhead. It was no cloud. It was a line of flying starfish.

Suddenly he and Allison were aware that the whole line was swooping downward, straight toward the pen. Wider and wider their flapping arms grew as they skyrocketed down.

Across the hilltop the busy figures of Champ and Kite and their cronies suddenly became motionless. They saw it coming—a swift retribution for their misdeeds.

The line of starfish swept down upon them. For a moment there was a swarm of waving gray arms. Somewhere beneath that mass of starfish, Bill Kite and his gang were fighting for their lives. Gunfire sounded, along with the yelling and cursing.

But apparently gunfire was not enough. In a moment the line of beasts swung upward. The first seven or eight had grabbed as many victims.

Kirk could hear the low shout of Champ changing into a choked squeal as the gangster was carried off into the sky. Thhe whole gang was gone. The flying starfish became a dim streak of darkness drifting over the horizon.

And Allison's pets, still safe in their pen, drifted around silently as if nothing had happened.

CHAPTER XXV

Souvenirs from the Captive Electron

THE new stand on the thoroughfare attracted a great deal of attention, partly because of Lyon's bluster, partly because there was something of genuine interest to be seen.

"You have never seen anything like it. They are the daintiest little creatures that ever came under a microscope. Here they are, my fellow fleas, waiting for your inspection."

Lyon held up a tiny glass box that reflected the green of his fingertips.

"Don't let your eyes deceive you. This box looks empty, but it contains hundreds of them. Step right up and pay the price of admission. In a moment I will place these creatures under the microscope, and you will see their pictures projected on the screen."

The fellow fleas crowded around, squinting their eyes at the glass box. They could not see anything. This talk of two-legged, flea-like creatures sounded like a fake. But the gullible and the skeptical alike paid the price and entered Lyon's dark room to see for themselves.

"They are like fleas!" the crowd was soon gasping. "Look at them walk.

There's one running. See them chase back into the corner. They act scared."

"There you have it," said Lyon, "the most remarkable demonstration of invisible life that has even been seen."

"How much for the lot?" someone sang out.

"I will sell them individually," said Lyon, and he named his price.

"It's a hold-up. What are they good for? They are only a microscopic novelty."

"All right," Lyon agreed, "they are a microscopic novelty. When you see them once you have seen the whole show. Don't ask me to sell them. I will keep them myself. But let me tell you something. This little batch of invisible life will be a most valuable collection as time goes on. They are the first to be captured from the first electron ever imprisoned, and if you don't like my price I will hold them for an investment."

"What was that price you quoted?" someone asked.

This time Lyon doubled the figure. The crowd roared.

"All right, they are not for sale. The time will come when the graduate microbes and even their masters will have instruments delicate enough to see these little beings. And then what a handsome price I will command! My monopoly—"

Lyon broke off suddenly. Prince Zaywoodie and his friends were coming along the thoroughfare. The Prince called out a greeting.

Lyon told his crowd to wait. He would be right back. He went out to meet the Prince.

"You are taking good care of those little creatures, I trust," said Prince Zaywoodie. "We don't want any of them to get away until we have further requests from our masters higher up."

The Prince went on, and Lyon returned to his customers. "The price I quoted you still goes," said Lyon. "Now, do I have any buyers?"

A few of the fleas made purchases. They were instructed to go elsewhere for glass boxes in which to house their pets. When they returned their merchandise would be ready. The more money Lyon took in, the more loudly he shouted.

Within their group there was a grumbler, the cynic named Zeerat. He was scornful of Lyon's knowledge of the little creatures. His sly talk drew listeners.

"I have it straight from the one-cells that these little fellows are very remarkable. In fact, if I knew them as well as I know my fellow fleas, I might be able to admire them just as much as I admire you—and you—and you."

Lyon did not like Zeerat's talk. He stormed loudly. What was this—an attempt to belittle the greatness of the fleas? The walls shuddered with Lyon's shouting.

"I only said," Zeerat replied, "that these little electron dwellers may have virtues of their own. I learned from a one-cell that they have machines to make their voices loud or soft. Think of it—a machine to soften the voice! We might use that to advantage on some of our loud flea mouths!"

This enraged Lyon so that he hurled the first thing he could get his hands on straight at the cynic.

Zeerat jumped, as any flea would, to keep from getting hit. The little glass box smashed against the wall and the splinters flew.

What happened to the microscopic creatures inside was more than any monster flea could hope to guess.

* * *

THE teacher passed out some reports which his pupils received in their

seven-fingered hands.

"The latest data upon our probing into the atom," said the teacher, "are indeed amazing. We learn that the electron has been successfully isolated, and that its inhabitants are being removed."

"Is there more than one inhabitant to an electron?" a pupil asked.

"According to the estimates set forth in this report," said the teacher, "there may be two billion of them on this particular electron. It was indeed a fortunate choice."

"Are they easily captured? Don't they even have the simple instinct to escape danger?"

"They seem to be powerless to help themselves. They are completely trapped. But a few of the more vigorous specimens are said to be flying against the sides of their trap, with mechines, trying to break out."

"What will become of them?"

"This report suggests that they are to be sold as souvenirs. In fact, this traffic has already begun." The teacher shook his head and folded his great hands sadly. "We may never know whether such infinitely small beings are capable of feeling hurt or wronged by this action."

CHAPTER XXVI

Goodbye to the Pets

SOMEWHERE in the continent of America June Allison was appealing to her hero-husband with all her heart.

"Please, Lester. Come away from the Zoo. The Migration Planners are about to give up. Every hour there are reports of new captures."

"But no killings?"

"How can we know what these flying starfish do with their human prisoners? They take them outside the shell, and that's the end of it. They keep coming back in droves, and wherever they find people they sail down and scoop them up and sail away."

Allison looked up at his flying starfish pets. "Interesting, isn't it, that our captive starfish are so quiet and well-behaved. You'd think they would try to break out when their brothers keep coming over in flocks."

"Lester, how can you be so—so devoid of feeling?"

"But my pets just look up and wave at their brothers and let it go at that."

"Is that all you have to say?"

"I do hope, June," Allison went on, "that the human prisoners outside the shell are getting as good treatment as I've given these brutes. But I— Wait, June. Where are you going?"

"I don't know." She was walking away from him as fast as she could go. She called back angrily. "But I do know we'll never see Diana and Kirk again."

"What's that?" Allison shouted, hurrying to catch her.

"They were working at the shell with a Battering Ram crew. But they and the space ship are all gone now." There were tears in June's eyes. "Oh, I wish our Mercury friends were here—Smitt and the Wakefields and Mary and—"

"June, believe me," Allison spoke earnestly. "I've been gambling my time on a hunch. Not until this hour have I been sure enough to try—"

"Look!" June cried. "Your pets! They're flying away!"

"I bought off the Zoo," said Allison, "and had them open the gate. . . . Yes, there they go. They're pretty, flying, aren't they?"

"Then maybe you have come to your senses."

"We'll see," said Allison. "Come on, let's find a telephone. I'll know in a

few minutes whether Professor Haycox learned his lesson of co-operation. These flying starfish slipped through his fingers and Ubruff's. But I've told those two gents how to save their reputations. By getting together and putting over a big job—"

"Haycox and Ubruff are deadly enemies," June gasped.

"If there's any goodness in human nature, those enemies have come through like a pair of pals. They agreed to have all the electric power companies in North America all set for me and ready to go."

"Electric power companies?" This was to much for June. She gestured helplessly as her husband dashed toward the Zoo office telephone.

A minute later he was conferring over some vague business concerning the switches of an electric light organ.

"That's correct, Haycox. Only one switch for the point in Canada. It remains constant. . . . All right, then the whole network is complete and the organ is ready to go. . . ."

June pressed her forehead with both her hands. "What next? Organ grinding?" she thought. "Maybe I ought to coax him into a cage and lock the gate."

CHAPTER XXVII

Message Through Microscopes

"THIS is most remarkable," said the teacher, rubbing his seven-fingered hands in delight. "It is the most amazing thing I have ever encountered. *The inhabitants on the captured electron are signalling.*"

He read the report, and his pupils listened with breathless interest.

"There we have it—a completed chain of communication from one universe to another. Let me summarize.

"One: We have learned to talk with the graduate microbes, which are too small for us to see.

"Two: The microbes, infested with parasitic fleas, sorted out the intelligent ones and utilized their smallness for scientific purposes. Through a common code of symbols the fleas passed knowledge up to their master microbes, who have passed it on to us.

"Three: The fleas have invisible servants, we have recently learned. Though the fleas can see them only through microscopes, these smaller creatures, known as one-cells, are, in their own peculiar way, very brainy. They talk by waving the points of their star-shaped bodies, and the fleas understand.

"And so do the microbes.

"And so do we.

"And now comes the final link in this marvelous chain. The infinitely small creatures on the newly captured electron *have already learned to communicate in the code of the one-cells.*"

After an impressive silence the curious pupils began questioning. What would such creatures have to say? Did they possess genuine thoughts of their own or were they simply parroting the actions of the one-cells? And how could they perform these actions?

Did they also possess star-shaped bodies?

"They talk by means of lights," said the teacher. "Our latest report tells us this: So highly organized is their system of co-operation that they are able to turn on millions of separate lights all over the face of the ball on which they live.

"Even more remarkable, they can extinguish some of these lights and flash on others *instantly*, so that the star's points can be made to talk."

By this time all the class was so eager to know what messages were coming through that the teacher obliged by

leading them to the vast laboratories, where a series of photographed messages from the telescope of the green fleas were being relayed upward, via the graduate microbes.

"The message, as it comes through to us, seems rather crudely worded," the teacher observed, "but it carries an unmistakable message. Our receivers are interpreting it as follows:

"'We who dwell on this ball appeal to the great creatures seeking to understand us. Our single wish is to be restored to our own position in our own universe. If this can be done, then we will welcome your messengers from this outside universe. But do not make slaves of us. We are creatures of freedom. Though we are small compared to you, we have the will and the ingenuity to choose our own way of living, and if necessary we will deal severely with intruders who are not wise enough to respect us. And so we repeat our plea. If any of you great creatures have the hearts to appreciate your tiny brothers, please take us back.'

"That is the message," the teacher concluded.

After a long respectful silence came a question. What was done with the captives that were being taken from the ball?

"It seems that there is much bickering among the green fleas over their claims to these prizes," the teacher replied. "Already some fleas are doing a profitable business in selling microscopic souvenirs."

One of the pupils suggested that this was taking unfair advantage. Another mentioned that the captives might be able to make good their threat.

"True," said the teacher. "A single electron removed from this miniature universe may lead to any explosion of all the power hidden within these scrapings of dust. You are all aware that this pink fuel is exceedingly potent."

The pupils began to back away.

"But explosion or not, we are faced with an appeal for mercy in the name of fair play. Now it will be most interesting to see how a little pressure from us will filter down."

CHAPTER XXVIII

Back!

BACK through the electrons shell the prisoners were carefully transported. Flocks of the faithful one-cells —those silent flying creatures of the immense brains and the pointed arms— were kept busy for several days, bringing back what they had obediently borrowed.

Back came Kirk and Diana—Mr. and Mrs. Riley, to be accurate. With them came the proud magistrate and several thousand witnesses, who hailed the bride and groom as the first Earth couple ever to be married outside the solar system.

Probably no such hectic honeymoon would ever befall another couple as long as the Earth turned.

To be married within a huge crystal box amid thousands of fellow prisoners, all reflecting the green of some great monsters' fingers in their faces; to be hurled through half a continent of space immediately after saying "I do," and next to find one's bride and one's self and all the witnesses floating down through the thick air amid the splinters of the shattered crystal; and then to spend days and days *completely lost* somewhere outside one's own universe —this was Kirk's unique honeymoon adventure.

"We're glad," Kirk said to June and Lester Allison in a fervent little speech that he and Diana thought worth remembering, "to be back."

"If we ever get back, really," June suggested, "you two will have to take a honeymoon to the moon, now that you're veteran space flyers."

"*If* the moon can be found at this late date," Allison added.

"But we didn't miss the moon at all," Diana declared happily. "We had the most beautiful star. It was six-pointed and it was spread all across the United States. And one point was up in Canada, and another down in Mexico, and we could see the whole thing at once! And the points would wave!"

"Les knows all about that, I'll bet," Kirk laughed. "He would be the first one to talk starfish."

Meanwhile, back toward its own corner of the universe went the Earth, towed by one of Prince Zaywoodie's fellow fleas, who knew how to get there the shortest way.

★ LEGS NO GLUE CAN HOLD ★

HAVE you ever watched a spider set her trap? Have you ever put yourself in the place of an unfortunate insect who had accidentally flown into this silky trap? No doubt you saw how frantically he struggled—how he fought a losing battle. He wiggled and he squirmed as he became more and more entangled in a sticky silk-like web. He must have emitted a good many cries for help. Of course, you never heard these cries—but that does not mean that they were absent. Nature has protected the human ear from such pitiful noises—making the human ear only sensitive to a small vibratory frequency range. We can never hear the shrill animal calls, but we have—in recent years—verified their presence through the use of instruments sensitive to the vibratory frequency of the animals in question.

Let us get back to our helpless victim whom we left dangling in the sticky entanglement. By this time he has thoroughly exhausted himself and played right into the hands of madame spider. Don't think for a moment that madame spider was not aware that her trap had been sprung. She had hidden herself when the trap was first set and had the foresight to take to her hiding place a silky strand which was to be used as a telephone. Since this silky strand was attached to the web by one of its ends, it could pass along any vibrations occurring in the web proper. The spider by feeling this silky wire vibrating knew that a bitter struggle was taking place in her trap. Madame spider was in no particular hurry yet. She knew only too well that her meal would wait. How could any living thing free himself from the sticky glue that covered her net? Anyhow, thought Mrs. Spider—"The longer this obstinate fool fights the weaker he must invariably get and hence the faster will my paralyzing fluids work." So the fiendish spider began to sharpen her poisonous hypodermic needle—making sure to keep watch of her telephone wire. For if the telephone wire vibrated less violently it showed the victim was now losing strength—but she also wanted him alive. Unless the victim was alive, he would surely rot. Having no refrigerator to preserve her meal, madame spider kept the victim half alive through the use of her paralyzing fluids. In this manner, the victim would gyp the decomposing saprophytes of their meal and give his body exclusively to madame spider.

The pull on the telephone wire was getting very feeble now and so madame spider went off to get her meal while he was still good and fresh. The spider nonchalantly stepped upon the silk threads of her net, and made her way toward her victim —a juicy fly in this case.

Would you think something were missing if I should end the story at this point? Well, there is something missing all right—an explanation. For instance, how is it possible for madame spider to make her way so nonchalantly toward her food and not suffer the same fate that befell the juicy fly? Why does not the spider get stuck in the glue which covers her net?

In the first place, not all of the silk threads are sticky. The spider has been careful to leave some of her strands without glue so that she would have a path to walk on. Now suppose the spider should slip or make the mistake of stepping on a wrong strand—say this particular strand was a glued one —what would happen to the spider? Would she now suffer the horrible end she had prepared for the juicy fly?

The answer is again—no. This crafty spider has made sure of all the possible angles that could result in her downfall. She is determined that only the fly should stick fast and play the role of a good "fly-chop." But why is the spider immune to glue? Is not glue sticky to whatever it brushes against? It plays no favorites. It is inanimate and hence knows no difference between fly or spider. The answer is simple if you have studied the leg of a spider. It seems that a spider is capable of secreting an oil from its legs which neutralizes the glue and hence makes a glued strand comparatively easy to walk on. Should a spider have the oil from her legs removed—(this has been done by numerous experimenters) she would find herself stuck in the same manner as the fly finds himself stuck.

—*Cuthbert Ellis Whittington.*

ME - THE PEOPLE

By EMIL PETAJA

His discovery led him to kill by the power of suggestion. Could a jury convict him?

I LEAPED up from my seat. I could have sworn I felt our plane swoop to land. Right in the middle of a Nevada desert!

"Lem!" Susie May shrilled. Her little hand clutched at my arm. "Something's gone wrong with the motor! We'll be killed! I *told* you we should have taken a streamliner to Las Vegas to be married, instead of chartering this old banana crate of a Honeymoon Special!"

"But darling—" I began to protest mildly. I adjusted my bifocals, and bit my thumbnail uneasily.

Chartering this wild cat plane for our elopement had been strictly Susie May's idea in the first place. She insisted, when I grumbled about the added expense. She said it was much more romantic that way—even if there wasn't anybody objecting to our marriage in the least.

"Don't argue!" she cried, her dolly

The power of my mind forced the deadly potion to his lips

blue eyes peering out at the desolate moonlit landscape that careened rapidly up at us. "Find out what's wrong!"

Rocking on my feet, I floundered up to the driver, and nudged his fat shoulder.

"Hey, Mister Chunky!" I shouted. "What in the world—"

I broke off with a gurgle when I saw his face.

Our affable driver's moon-like puss had become a frozen mask. His chubby mouth was curved in a puzzled smile; his eyes were peculiarly glassy, like a stuffed owl's.

"Susie!" I gargled, painfully gulping for air. "I think our driver has gone nuts!"

"What!" Susie May squealed. "Well, don't stand there like a nincompoop! Do something!"

"You know I don't know anything about airplanes," I said meekly. "I'm a bookkeeper." I glanced out the window at the fast-approaching earth. "And it looks like we're much too near the ground to bail out."

My eyes rested on my girl's frightened reproachful orbs apologetically. "I'm sorry, Susie May. Looks like we're going to crash!"

SUSIE MAY loosed a dismal coyote's wail.

I shook our driver's shoulders frantically.

My eyes turned down at his gloved hands, on the controls.

"Mister Ch—" I shouted.

I cut off abruptly, as I clung desperately to the edge of the driver's seat to maintain my balance. I became suddenly aware that his hands were maneuvering the controls expertly. His face was a Zombie's, but his hands were deftly at work. He was making a landing deliberately!

I was so surprised, I let go. Suddenly he swung the plane around, apparently to dodge some object on the rough terrain along which the plane now taxied. *An object which he couldn't possibly see!* His glassy eyes were rolled up and staring fixedly at the ceiling.

Kerplunk!

I went down like a ten-pin. My head cracked open on something hard and sharp, and a galaxy of stars oozed in. Suns, all mixed up with rolling pins and squacking Donald Ducks . . .

I groaned. Then at last I came out of it. My head rested on a cushion held in Susie May's lap. She was in the act of swabbing my noggin with something cool and soothing.

"It's all right, Lem," she said, smiling down at me crookedly. "At least—" She side-glanced around her furtively. "I hope it is!"

"Where are we?" I queried groggily. "What's that humming noise?"

"We're flying again," she told me in a tense whisper. "To Las Vegas—I hope. We only landed long enough to pick up a passenger."

She glanced over her shoulder fearfully.

"Who—" I started up indignantly. The driver had no right to pick up other passengers. We had chartered the plane for ourselves alone. It cost a pretty penny, too.

I pulled up, wincing at the cutting pain in my head. After I could sit up decently, I turned around sharply to have a look at the man we'd picked up.

I had it in my mind to tell him a thing or three. But definitely. Who did he think he was, anyhow?

He sat directly behind us in the other double seat. He was burrowed down in a heavy black overcoat, and surrounded by suitcases and boxes of every shape and size.

He was a smallish man, with slender

chemical-stained hands that held on to each other companionably. His head was bare, and egg-shaped. It bulged out in back. And it was bald as an egg. His features were ordinary, but there was a sardonic down-twist to his mouth.

Suddenly, as if he knew I was giving him the once-over, he raised up his head and opened his eyes.

They were twin black diamonds, and burned into mine.

I winced. They bored holes right through my head.

He yawned.

"Hullo," I stammered, forgetting the hot epithets that had trembled on my tongue a few seconds before.

"Good evening, Mason," he said, in a dry bored voice.

"HOW did *you* know my name?" I asked curiously, after a moment.

He yawned again. "I know nearly everything," he replied modestly.

I smiled thinly, reminded of a certain Morton Weinstock.

"I suppose you've travelled into the future?"

"No."

He closed his eyes again.

I glanced at Susie May. She was asleep, her frizzy blonde head resting cozily against the cushion she'd propped against the window. She snored gently.

The plane droned on into the night.

I turned back to our strange intruder. I didn't feel a bit sleepy. I was curious about him.

"Hey!" I whispered, and reached back to shake him easily. "What's this all about?"

"What's what all about?" his sardonic bored voice asked, before he opened his eyes.

"Who are you?" I asked. "And how come we landed miles off our course to pick you up? The driver didn't mention you in Los Angeles."

"He didn't even know I existed—then."

"Well, for cat sakes, tell me—"

"Why should I tell you anything?" he interrupted, stifling a yawn.

"This is our plane," I sulked. "I hired it. It seems to me I'm entitled to some explan—"

"All right, Mason," he broke in again. "I'll answer your questions. After all, you saved my life!"

"I *did?*" I blinked.

"Well," I went on. "First of all, who are you? And what do you mean when you say you know almost everything? And what do you know about Mister Chunky's peculiar behavior?"

His forehead corrugated.

"The crux of the whole business is my great discovery," he said at last.

"What's that?"

"The discovery that I—Mark Tyme," he went on, "am not only *me,* but that *I am everyone else in the world too!*"

I gaped at him in pop-eyed amazement. Here was a screwball among screwballs!

Then I giggled.

"Sounds silly," I told him frankly.

His frown deepened. Then he let loose a vibrant sigh.

"I guess I had better tell you the entire story."

"Guess you had," I grinned.

The ache in my head had subsided. I was wide awake, and just in the mood for a cock-eyed yarn. It would help pass away the time until we reached Las Vegas.

I settled down comfortably in my seat, pricking up my ears. . . .

IT ALL begins (said the mysterious stranger), the significant day last month when Horace Gibson swaggered into my little laboratory, and insisted on being shown the apparatus

that was the result of a life-time of investigation into physical and psychological sciences.

"So this is the trinket you tricked me into sinking five thousand dollars into!" he bellowed like a bull.

"A mere bagatelle," I told him, meeting his irate snorting calmly. "All I needed to complete the machine that is to prove beyond the shadow of a doubt my monumental theory."

I reached for my precious cosmic mind-radio.

"Bah!" he sneered, jerking it away. "Mark Tyme, you're a bald-headed faker! You cajolled me into investing my hard-earned cash into this—this crystal radio set! I can tell you, if you ain't got the money to pay me back every red cent I'll take it out of your hide!"

I suppose he could have done it, too. Take it out of my hide, I mean. I've spent most of my two score years in a laboratory, striving to do my bit in liberating the world.

Horace Gibson was a bluff red-faced ex-butcher. He stopped being a butcher in the little town of Luke's Gap when he discovered that city gangster methods paid off bigger dividends. And now our peaceful little mining town squirmed under his fat thumb.

Yes, Gibson was a biblical "little fox" if ever there was one. I was a fool to ever let myself get under obligation to him. But I was so inflamed about my monumental discovery that I didn't care where the money came from that was to bring it to a successful culmination.

He continued to rant and roar. He called me various unpleasant names. Finally, in his rage, he made as if to smash my wonderful cosmic mind-radio.

"Stop!" I shouted, white-lipped. "You don't know what you're doing! If it's cold cash you want, that little instrument is worth its weight in radium!"

HORACE GIBSON poised, like a grotesque caricature of the Discobolus of Myron.

"Huh?" he grunted. He laid it down carefully on the porcelain-topped table.

"If you'll keep quiet, I'll explain the full magnitude of my discovery," I told him frigidly.

Gibson poked his huge hog's snout down at the delicate little apparatus respectfully. Then he burped, and said, "Okay, Tyme, explain! Only this time leave out the high-falutin' language. Sounded to me before like you was just covering up with a lot of fancy talk."

"I assure you—"

"Spill!" he commanded. He smacked his beefy hand down on the table, then swept aside trays of test tubes, retorts, and a Bunsen burner, and squatted his broad beam down on my best table.

"It all begins in the Garden of Eden —" I began, solemnly.

"Tyme!" he growled, warningly.

I remained calm.

"I mean that in India, near Basra," I continued, "is the spot that many people believe to be the authentic Garden of Eden, the starting-point of life on this planet.

"And in that Garden is a tree, called the Tree of Life. Mohammedans believe this to be the original first tree —the tree from which all other life sprang. . . .

"Many years ago, in a San Francisco book shop, I came across a very curious old book. This book was a semi-mystical semi-scientific volume, which hinted at very astonishing properties to be found in this Tree of Life.

"The book intrigued me. Knowing, as all scientists worthy of the name

know, that most old superstitions and legends have an actual basis in scientific fact, it was my hope to discover some of the secrets of life itself—from this Tree of Life. . . ."

"Get to the point!" Gibson growled.

"So at considerable expense I obtained from India small portions of this huge ancient tree. Leaves, bark, and small roots.

"Countless experiments followed. In one of them, I boiled the roots, under very special conditions. This led me directly to the initial discovery I have made!"

"I'm all atwitter," Gibson sneered.

My fingers closed around a razor-sharp scalpel longingly. But I thought better of it, sighed, and continued.

"I found out that this Tree of Life held, in its very roots, a tangible counterpart of the cosmic ray that produces Life!"

I PAUSED, waiting for an avalanche of disbelief.

Gibson only picked his teeth with an ivory toothpick and said, "So what?"

My disgust was overwhelming. For a moment I was speechless. Then I went on.

"This discovery tied in beautifully with theories I had long been working on. I found myself in a labyrinth of new and breathtaking ideas.

"I asked myself—could it be that this Tree of Life had been purposely planted on our lifeless dawn world, with the full intention of supplying it with animate life? Planted perhaps by some super-being who journeyed here from some far off super-world, or from some super-dimension!"

"Listen," Gibson hissed. "Don't get sacrilegious."

"It's just a wild supposition of mine," I said.

I went on quickly.

"The second part of my discovery happened by accident. One morning I spilled some of the precious solution I had developed on my bare hands. Absent-mindedly I rubbed my hands, thus treated, on my forehead.

"I had the most unusual sensation. I—"

"I'm not interested in your belly-aches!" Gibson snapped, consulting his heavy gold watch.

"All right," I retorted. "I'll cut right to the climax. I followed up my —er—belly-ache by constructing this cosmic mind-radio, after deducing that—"

I stopped short. I couldn't bring myself to cast this pearl of wisdom before this human pork.

"Go on!" Gibson yawned.

"It's something incredible and vast —"

"Cut the dramatics, Tyme!" Gibson snorted.

My lips quivered. I swallowed hard, then said it.

"I found out that all mental life on this planet is linked together by an invisible but indestructible chain. All minds on Earth are actually only *one vast mind*, broken up into small individual parts. The source of our conscious life is this great Tree, and all of us are a part of this great consciousness!"

GIBSON gaped.

Then he spluttered like a motorcycle.

"W-what'd you mean, one big mind?"

"It's simple as pie, really. Too simple to readily comprehend," I told him. "Here it is: mentally, I am you. You are me. 'We' are also everybody else on this planet. We the people. You the people. *Me the People!*

"Actually, the idea isn't at all new.

It has been deduced often before, but usually with so much religious implication that the scientific facts were distorted all out of shape.

"And a great many human traits tend to prove it. Hypnotism, for one thing. Mental telepathy, for another. What the Indian Yogis are able to do. And, remember, *they* were among the first to realize the potentialities of this Tree of Life!"

"You're crazy!" Horace Gibson shouted. He leaped up, lit a cigar with trembling fingers, eyeing me warily.

I laughed, a little wildly.

"No, strangely enough, I'm not crazy. My cosmic mind-radio *proves* all this!"

He twitched uneasily. It tickled me to see complacent back-slapping Horace Gibson so jumpy.

"How come we don't sense all this, in our own minds?" Gibson asked, frowning in deep thought.

"Perhaps early man did realize it, being nearer its source, but the more involved human existence became, the further mind-parts drifted apart from each other. . . .

"The whole network of sex motivation suggests a veiled attempt to merge matching parts of this great Earth-mind back together again!"

"KEEP it clean," Gibson growled, mangling his cigar. Then he went bluntly to the part of the discovery that interested him most. "You mean to say that this cosmic what-not of yours can get into other people's minds?"

His pig-eyes glittered.

"Why not?" I retorted, with some smugness. "It can read 'other' minds by exercising its prerogative as belonging to the original source of conscious Earth life. My mind is linked to everyone else's, being only part of a whole, obviously I can read 'other' minds—by use of this mind-radio.

"And not only *that*," I bragged, "why, by the use of it I could control either individual parts of this one vast mind—or the whole Earth-Mind itself! By use of this apparatus, I could completely dictate the mental actions of everyone on this Earth!"

Then, looking over at him triumphantly, I froze. The look that came into his red-rimmed eyes! The diabolical gleam of a would-be tyrant!

What had I done? Spouting recklessly about absolute control over the world—to a potential dictator like Horace Gibson! Gibson, who already cracked the whip over the humble mine-workers of Luke's Gap!

Why, a man like Horace Gibson would stop at nothing short of world dictatorship. . . .

Gibson pursued his flabby lips, and whistled.

"Ah-ha!" He expanded like a toy balloon. "Mark Tyme, my lad, maybe you *have* got something here after all. Why didn't you tell me that last part before you spoke?" He guffawed at his feeble joke, slapping my back.

My mind raced wildly. I had to do something — quick. Just let Horace Gibson get that cosmic mind-radio strapped on his head only once—and the result would be disastrous!

"LEMME test it out," he grinned diabolically, rubbing his beefy hands together in anticipation.

"Not just now," I said hastily. "I'll have to adjust—"

Gibson made noises like a bear. "Not fifteen minutes ago you told me the machine was in perfect shape! I want to try the thing out *now!*"

He glared at me with his piggy eyes, as though I were a side of beef he meant to butcher. His fingers twitched.

I could see that I'd have to figure out something else.

I nodded grimly.

As I went about fussing with the mind-radio to gain time to think of something, Gibson began to mumble half-aloud.

"I'll show that state marshal a thing or two," he snarled to himself. "I'll make him run his car over the Cadron Pass. He'll be there just about now, on his way to have a talk with me, like he told me by telephone.

"And there's a couple other men in this town who are due to learn that Horace Gibson pulls the strings in this burg!"

I strapped the metal cap that was connected to the mind-radio by coils of wire down on his bushy black head.

I shuddered involuntarily. To think that my lifetime of work was about to be used for malignant purposes, by this small town racketeer. I gritted my teeth, fiddling with the minute controls.

Gibson waited, his mouth twitching evilly.

Ten minutes passed.

"Nothing's happening," he hissed suspiciously.

"That's strange," I said in pseudo-bewilderment. "You should be getting the sensation of lightness, as though you were floating over a vast misty sea. . . ."

Gibson snorted, and yanked off the metal cap.

"Find out what's wrong!"

I nodded, frowning. But I knew why there hadn't been any reaction. I had purposely neglected to release the most important control of all—the Tree of Life juice.

"I'll try it out first," I said, strapping the cap on my own head. "I'm used to it. It'll be easy for me to then locate the trouble."

"No tricks, Tyme!" Gibson growled.

I twirled the controls hastily.

My mind began to drift, my consciousness to diffuse. The lab, Gibson's unbeautiful face, and the whole world, receded in an out-of-focus blur.

Then everything else cleared, and I felt myself floating gently over a great grey ocean of mist, as I had several times before. Below me were innumerable tiny holes in the mist, that I knew were mind-openings.

Some super-knowledge that the Tree of Life drug gave me told me which hole led to Horace Gibson's mind-part.

I moved down effortlessly, and slipped in. . . .

What I found there shocked me. Horace Gibson's mind-part was diseased, rank with a great foulness. His every crafty thought was spawned out of lust and contempt for his fellow man.

His present thoughts, the thoughts that he was thinking now, flashed on and off like a neon signboard.

"Mark Tyme, you're a goner," the sign read. "As soon as you've fixed the mind-radio, and taught me how to operate it, you'll be a dead duck. You're too smart to let live. I want a clear field when I start twisting my hands around the World's throat and making it holler Uncle!"

"HORACE!" I cried out to his mind. My consciousness quivered in desperation. There was only one thing to do. . . .

Gibson's physical body resisted my intrusion. His mind fought me. But I was already in, and in I stayed.

My consciousness directed his body.

"Do what I tell you!" I said to it. "Go to the wall shelf. There you will find rows of bottles. Take down the two bottles on the highest shelf."

He fought. I could sense his bulky body shivering in an attempt to shake

off my dominance. I exerted all my will. The Tree of Life juice gave me power. In the end he had to obey.

"Find a clean glass," I instructed, with calm deliberateness. "And pour it half full out of the brown bottle. Now fill it from the other—"

Gibson made every move I directed.

"Now—" I said. "Drink it!"

He drank. . . .

I drifted out of Gibson's mind-part, found my own, and directed my hands to shut off the mind-radio. Then, with a feeling of vast weariness, I sank down in my chair and stared down at Horace Gibson.

He was sprawled out, dead as a doornail.

After a moment I stood up, and bent over him curiously. I heard a muffled shriek of fright behind me.

I whirled.

It was Effie Maste, the dim-witted wench who drudged for my landlady. She had obviously been sent to tell me to come home to dinner. My landlady ruled her boarders with an iron fist.

Effie's vacant lack-lustre eyes bugged out. Her hand flew to her mouth, and she screamed again.

Then she backed out of the door, and ran.

I felt an overwhelming desire to throw my head back and laugh. That look on her face.

After a few minutes I tidied up the lab, and put my cosmic mind-radio away carefully, along with all my notes.

About an hour later, Sheriff Mike Willis came in and arrested me for murder.

LUKE'S gap doesn't have much excitement, so everyone looked forward eagerly to my trial day. They hadn't had a murder trial since Old Lum Basker got lickered up and cut up his brother-in-law, Guber Wilks.

From my little cell's back window I could just see the top of the scaffold they'd built out behind Joshua Pickin's barn, for the hanging.

Trial day was August 6th.

It was phenomenally hot that day.

Flies buzzed over the jammed courtroom, augmenting the buzzing of ireful voices, as I was ushered in.

Judge Reefer pushed his glasses up on his forehead, and slapped at several flies cavorting on the paper litter in front of him, with a flyswatter that served double duty as a gavel.

"Order in the Court!" he wheezed asthmatically.

Everyone's eyes were glued on me. I was the center of attraction. And there wasn't a friendly face in the whole crowd.

I thought, with a wry smile, that my lack of friends was in a measure my own fault. I was so absorbed in my experiments I took no time to vouchsafe any small chatter with the local yokels.

Luke's Gap folks like to know what brand of tobacco you smoke, what denomination you adhere to, and have a clear picture regarding your political preferences.

They had a vulture look. I wondered vaguely if after it was all over they'd slice me up in little pieces and each take home a slice to put on the what-not for a souvenir.

Effie Maste was sworn in.

"Tell us just what you saw. Don't be afraid of that murdering sk—" Hank Peters, the prosecuting attorney, broke off slyly, as though his righteous indignation had got the better of him for a moment.

The jury twittered in approval. Effie Maste shot a scared look at me from the witness stand.

"Well," Effie gulped self-consciously. "When I looked in the door I saw that

there Mark Tyme hand Horace Gibson a glass of something awful-looking. And Horace Gibson he drunk it, and fell down dead!"

Whispers bounced among the spectators.

Hank Peters displayed his palms, as if to say, there you have it, what more proof could you possibly want.

Effie left the stand, flushed with self-satisfaction.

The coroner issued his autopsy report. Then character witnesses were called.

From the way everyone glared at me, there was no doubt in my mind as to what verdict they'd reach. In the eyes of the jury I was already Satan himself, complete with horns and tail.

WHAT puzzled me most was the attitude of the townspeople toward Horace Gibson. He had swindled, brow-beaten, and intimidated them relentlessly—yet now he was a martyr.

Why, he used to give $50 to the Chest every year!

I figured out why. Gibson had been owed money by practically every man in town, but his shady affairs were found to be in such a mix-up at his death that everyone was automatically cleared of all debt. He had left no heirs.

Actually, I'd done the town a big favor. But each man felt he had to put up a big front.

There's no use being bitter about it, I told myself. *I* know that all these other mind-parts are a part of me, and I'm a part of them.

Finally I was called to the stand.

Larry Ricker was my lawyer. I never saw a more apathetic one. He whined half-hearted in answer to Hank Peters's lambastings.

"You *dare* to plead not guilty!" Peters shouted.

"It's my right, isn't it?" I returned mildly.

"Effie saw you hand Horace Gibson the poison glass! Your crime was witnessed!"

"Effie was mistaken."

"Why you—"

"Umph," put in Judge Reefer, mopping his forehead. "Kindly refrain from further abusing the poisoner—I mean, the defendant."

"I guess I said enough," Hank Peters grinned triumphantly at the jury.

I took a quick look at their solemn faces, and guessed he had. . . .

"GOT anything to say before sentence is passed on you?" Judge Reefer wheezed, squinted down at me unpleasantly.

"Quite a lot," I said. "With the Court's permission."

"Granted," he grumbled irritatedly.

So I told them the whole story, start to finish. Just what I had told Horace Gibson, and what happened after that.

The courtroom became very still while I was talking, except for the droning flies. But when I finished the whole room rocked with raucous laughter and hooting.

Even Judge Reefer chuckled, in a sour way.

Then he slapped his fly-swatter down a couple times, and yelled for order.

"Very amusing I'm sure," he rumbled. "But we haven't time to listen to your pipe dreams, Tyme. However, if Larry Ricker wishes to change the plea to 'not guilty by reason of being a looney'—"

The courtroom exploded with unrestrained mirth.

My lawyer threw up his hands, indicating that he wished to be disassociated with the whole case.

"Wait!" I shouted. "I can prove what I told you! Send someone over

to my lab for my cosmic mind-radio!"

Boos and snickers followed.

"Don't you think we've had enough of—" the Judge began reproachfully.

"I demand my rights!" I yelled.

"All right," he grumbled. "This being a murder trial, I guess we'll have to humor the screwball—I mean, the defendant."

A freckle-faced boy was sent for my apparatus.

I was grateful to find that nothing had been tampered with. I strapped my instrument around my waist, and the metal cap down on my head. The crowd roared.

Judge Reefer slapped his flyswatter down for order and killed a couple flies as well.

They all had a good belly laugh at my expense.

I manipulated the controls. Again that sensation of leaving my body and drifting over a great grey sea swept over me. . . .

I located Judge Reefer's mind-part. I tried to enter.

But the entrance was blocked against me!

This was something new. I hadn't experienced this before. Apparently there were some mind-parts that built up barriers.

So I tried the prosecuting attorney's mind-part. Here again the way was barred!

I tried to reason out why this should be. The best I could assume was that Judge Reefer had locked up his mind-part by cynicism and coldness, Hank Peters by downright conceit and stupidity.

I returned to my body. I heard gabbling voices, and raspy chuckles around me. These were punctuated with the Judge's flyswatter smacking on the desk.

"Well, Tyme," he sneered. "Through with your monkeyshines?"

I nodded absently.

"Then, you jurymen go out in the other room, and come back with the right verdict!"

As he spoke the Judge's swatter squashed down significantly on a fly that hovered over his desk. . .

THE room was awfully hot.

I loosened my collar. That reminded me of the rope with thirteen hitches in it, swinging in the breeze out behind Joshua Pickin's barn.

What I regretted most was not being able to follow through my research on the Tree of Life juice. What would happen to my cosmic mind-radio? And all my notes?

I mused that probably some curious M.D. or school teacher would get hold of them. Maybe the wrong kind of a man—a pig like Horace Gibson! Some fathead with dreams of dictatorial grandeur. . .

That shouldn't happen!

It was all very pretty for me to be a martyr, and hang for Gibson's death. But after these local boys stopped laughing about my instrument, one of them would probably put two and two together and get something out of it.

I *couldn't* let myself get strung up behind Joshua Pickin's barn. I had my work cut out for me, plenty of it!

Nobody noticed me put the mind-radio cap back on, and work the controls cautiously. There was no noise about it. Everyone was busy talking and laughing.

My consciousness drifted out into the void. . .

At best it was a long shot. Look what had happened when I tried to get into the Judge's mind—and Hank Peters's.

I drifted into the jury room.

I sensed the petty bickering that was

going on in the mind-parts there. Each one of the twelve had to have his say:

"Ain't no doubt of it. He's guilty as sin!"

"Could have been suicide, maybe."

"Bah!"

"Yeah, but we don't want innocent blood on our hands."

"Mark Tyme always looked easy-going enough. Like he'd never hurt a fly."

"Them scientists is funny. Look how they torture guinea pigs and rabbits. Bet he was *experimenting* on poor Gibson!"

"I think he is nuts, is what *I* think!"

"Yah. That wacky story of his."

"Horace Gibson was a hard man."

"But murder, man! *Murder!*"

Round and round it went. Finally, after a lot of aimless discussion, they came to a verdict. Guilty!

And at that p o i n t my mind-part stepped in. . .

I CHOSE Pete Whiffle, a cocky little man with a bristling black moustache. I knew he loved a good argument, and was pig-headed. He'd been the last to agree definitely on the verdict.

Entrance to his mind-part was easy. He was mentally a simple honest soul.

The twelve men rose from their seats, preparing to file out into the courtroom to render their verdict.

Suddenly Whiffle flung up both hands and shouted, *"Wait!"*

"What is it?" the others chorused irritatedly. They were tired, anxious to finish their job.

"I—I—" he started in puzzledly, while I sought for words to put in his mouth, or rather in his mind. I wanted them to feel that they were making their own decisions.

"Well, get on with it," lanky Cyril Soom put in. Cyril had red hair and an Adam's apple like a freckled cherry. He was connected with a Divine Healing establishment.

"My conscience—that's it, my conscience tells me we aren't doing the right thing. We must sift the evidence again!"

"Sift!" snorted Lars Parkson, a burly mine superintendent. "We don't need to sift anything. Either he's guilty or he's not guilty. Make up your mind, Pete. Which is he?"

I directed cautiously.

"Not guilty!" he shouted, after a moment.

A babble of dissenting voices ensued. I filtered out of Whiffle's mind-part, and entered Cyril Soom's.

"What is all this?" P a r k i n s o n growled. He was stubborn, phlegmatic, unimaginative. I was likely to have trouble with him. "I thought we'd agreed that he was caught red-handed, and should swing for murder!"

"Yes!" agreed ten other voices.

"Now you say he's not guilty!" Parkson pointed an accusing finger at Whiffle.

The little man turned beet-red.

"Who, *me?*" he retorted.

"Yes, you!"

"But—" he protested. "I didn't say that!"

Parkson snorted, w h i l e ten voices told him he had.

He turned an indignant purple.

"Well, for that matter maybe he—"

Cyril Soom interrupted, after I insinuated a thought into his mind-part. He waved a well-manicured hand languidly aloft.

"A voice from heaven has just told me that Mark Tyme is innocent," he said tremulously. "Innocent as a newborn babe!"

"YOU, too?" Lars Parkson spat disgustedly.

"Do not presume to question the Divinity," Cyril Soom reprimanded him primly. "It has shed its great light on my mind, and made me its instrument of Justice!"

Parkson exploded. He ranted and roared. His very rage was contagious. Most of the other men sided with him from force of habit.

I realized that he was the one I needed to convince. I trailed out of Soom's mind-part, and made for Parkson's. I tried to push my way in.

I smashed against a barrier like solid granite.

"I've got to make it!" I told myself. "Parkson's the key man!"

I floated back to my body. Dimly I sensed the droning flies and voices around me in the courtroom.

My fingers w o r k e d the controls madly. Rashly I twirled the dial that controlled the Tree of Life juice, releasing over twice the amount I had ever used before.

It was a final desperate effort.

I found Parkson's mind-part. Exerting all the will power my consciousness possessed, I plowed forward. Again and again.

At last I felt the barrier Parkson's stubborness had built up begin to yield. . .

"Well, if that wouldn't curl your eyebrows!" Lars Parkson was yelling. He pounded his fist on the table. "Now, you—Whiffle—for the last time! Is Mark Tyme not guilty?"

He bent over the table and glared at the little man.

Whiffle looked sheepish.

"I guess he's guilty," he said.

"How about you!" Parkson thundered at Cyril Soom.

"I—I," Soom quailed. "Whatever the rest of you think."

"All r i g h t then," Lars Parkson shouted, in an absolutely final way. "We are unanimously agreed that Mark Tyme is—*not guilty!*"

My mind-part was in.

The jury sat down hard, shocked into deep silence.

"The Light has penetrated," Cyril Soom cried at last, closing his eyes ecstatically. "Even into your thick skull!"

Someone was shaking my body violently. I had to leave the tumult that followed, and return to it.

I pretended to have fainted. I eyed the jury as it filed solemnly back into the jury box wonderingly. . .

"WELL," J u d g e Reefer yawned. "Have you gentlemen reached a verdict?"

"We have, Judge," Parkson said sullenly.

"Mark Tyme, rise up and face the Jury. And put down that contraption of yours!"

I stood up and looked straight into Parkson's eyes. And now at this crucial point, this thought swept over me.

Maybe they're right! Maybe I've been working too long in my lab, and got so wrapped up in that Tree of Life business that I believed things that weren't so. Maybe I *was* nuts!

My hands trembled.

The room was silent as death.

"We find the defendant, Mark Tyme," Parkson spoke, in his booming voice that echoed over the quiet room like a fog horn, *"not guilty!* Horace Gibson committed suicide!"

THE stranger stopped speaking. His story was finished.

I moved cramped muscles, and woke up Susie May.

"Look, Lem!" she cried sleepily. "We're landing again! What's the matter with that crazy driver!"

I gandered out of the window, at the grey misty dawn. Susie May was right.

We had landed again, on some small auxiliary field. In the distance were neon lights that advertised a "Motel. Cabins. Soft Drinks and Sandwiches."

I forgot about the stranger who called himself Mark Tyme, while Susie May argued with the driver.

He only grinned, and said, "Have to check something. It'll only take a minute. Why don't you and your fiance go over and have a cuppa cawfee?"

So we did, and Mark Tyme came with us.

He didn't have anything to eat. He just sat in a corner booth with a funny gadget slung around his waist, and a weird metal cap on his head. His cosmic mind-radio, I think he called it.

Right in the middle of our hamburger sandwich, I heard the sound of our plane being started. Susie May did too.

She screamed, and we ran for the door. But we were too late. The driver, Mr. Chunky, had taken off without us. The plane was swooping upward into the approaching dawn.

"Darn!" Susie May cried. "Why'd he go off and leave us, anyway?"

Mark Tyme was standing right behind us, with a funny half-smile on his face.

"You—you did this!" I accused him suddenly.

"Yes."

"Why?" Susie May wailed. "Now we'll *never* get there—stuck away in this Godforsaken place!"

"You were in danger in that plane," he replied calmly.

"What do you mean?" I asked.

"This driver, Chunky, has no scruples. He hasn't much of a plane, either. It's practically falling apart. Should trouble develop, he would unhesitatingly bail out, leaving his passengers to die!"

"Where'd you learn all this?"

"From his mind-part," Mark Tyme returned calmly. "So I directed him to finish the trip alone. Of course, I have no positive knowledge that there *will* be trouble. I only know that Mr. Chunky's reaction would be should trouble develop. His plane is not even equipped properly with parachutes." He led the way out. "I suggest that we go over to the little radio shack on the field, and find out when the next plane will arrive, that can take us on to Las Vegas."

We followed him, wordlessly. Even Susie May said nothing, but eyed him with round awed eyes.

We found out about the next plane. And we found out, also, while we were waiting, that a little job identified only by a badly chromoed cupid on the side, and the name "Honeymoon Special" had crashed some fifty miles west of Las Vegas.

The driver had bailed out. . . .

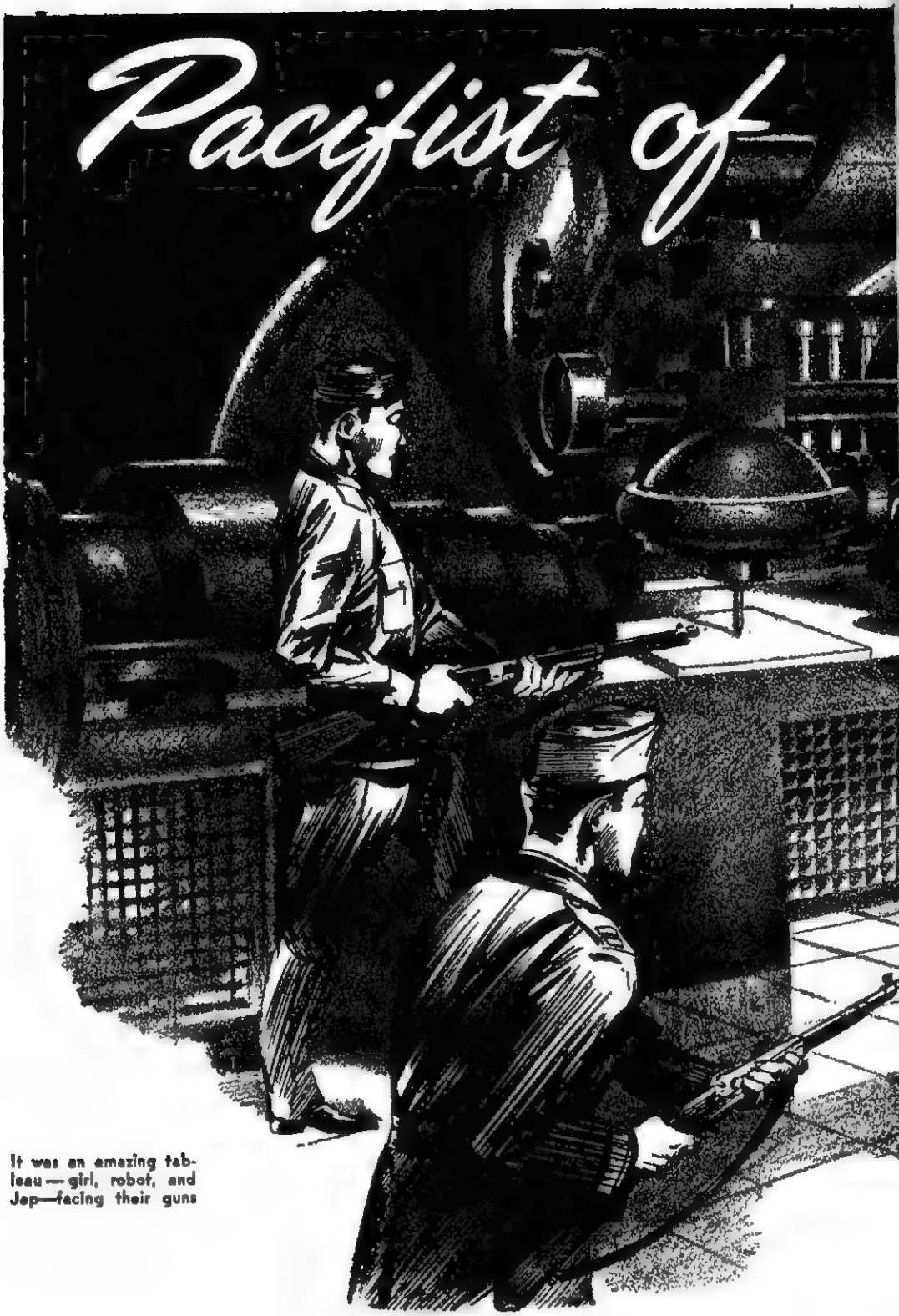
★ THE UNKNOWN SOLDIER ★

NOBODY knows who America's Unknown Soldier was, and not many people know the way in which he was chosen. France originated the idea and other nations soon followed her example. In 1921, following a joint resolution of Congress, the Secretary of War, instructed the quartermaster general of the Army to select from the unidentified American dead the body of a member of the A.E.F. to typify the Americans who lost their lives in the World War.

Four bodies were exhumed from four different cemeteries. Nothing was known about any of them as to their name, rank, organization, service, or the battlefield on which they fell. Only the uniform and original burial place proved that they were American. The four bodies were embalmed and put into identical caskets, then placed in a chapel at Chalonsur-Marne, France.

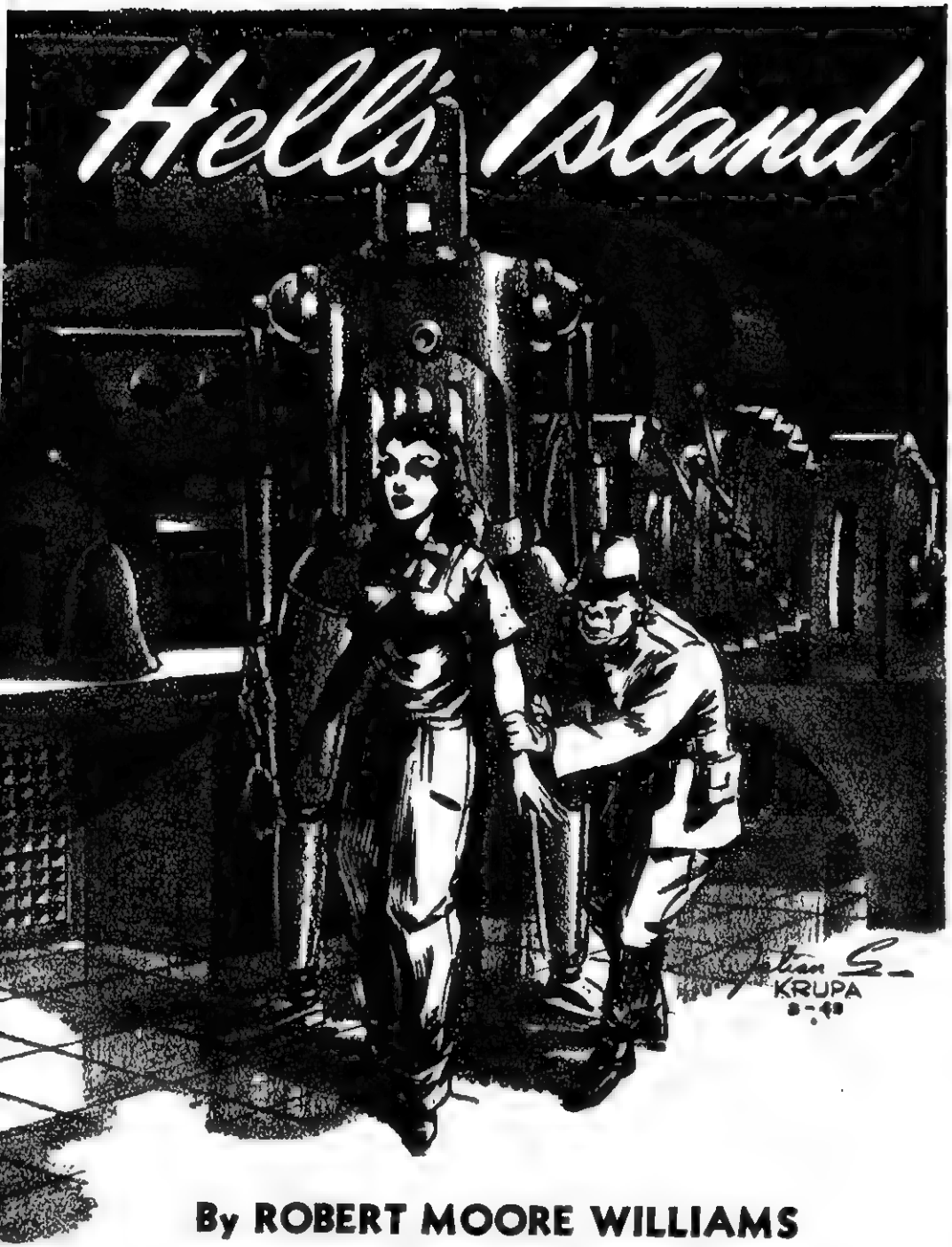
On October 24, 1921, Sergeant Edward Younger, who was selected from the American Soldiers present, went into the chapel alone and designated one of the four bodies as America's Unknown Soldier, by laying a wreath of white roses on the casket. The body was then conveyed to the United States in the U. S. S. Olympia. It lay in state in the Capitol at Washington, then, with solemn ceremonies, the Unknown Soldier was interred in his final resting place in front of the Memorial Amphitheater in Arlington National Cemetery on Armistice Day, 1921.

Pacifist of



It was an amazing tableau — girl, robot, and Jap — facing their guns

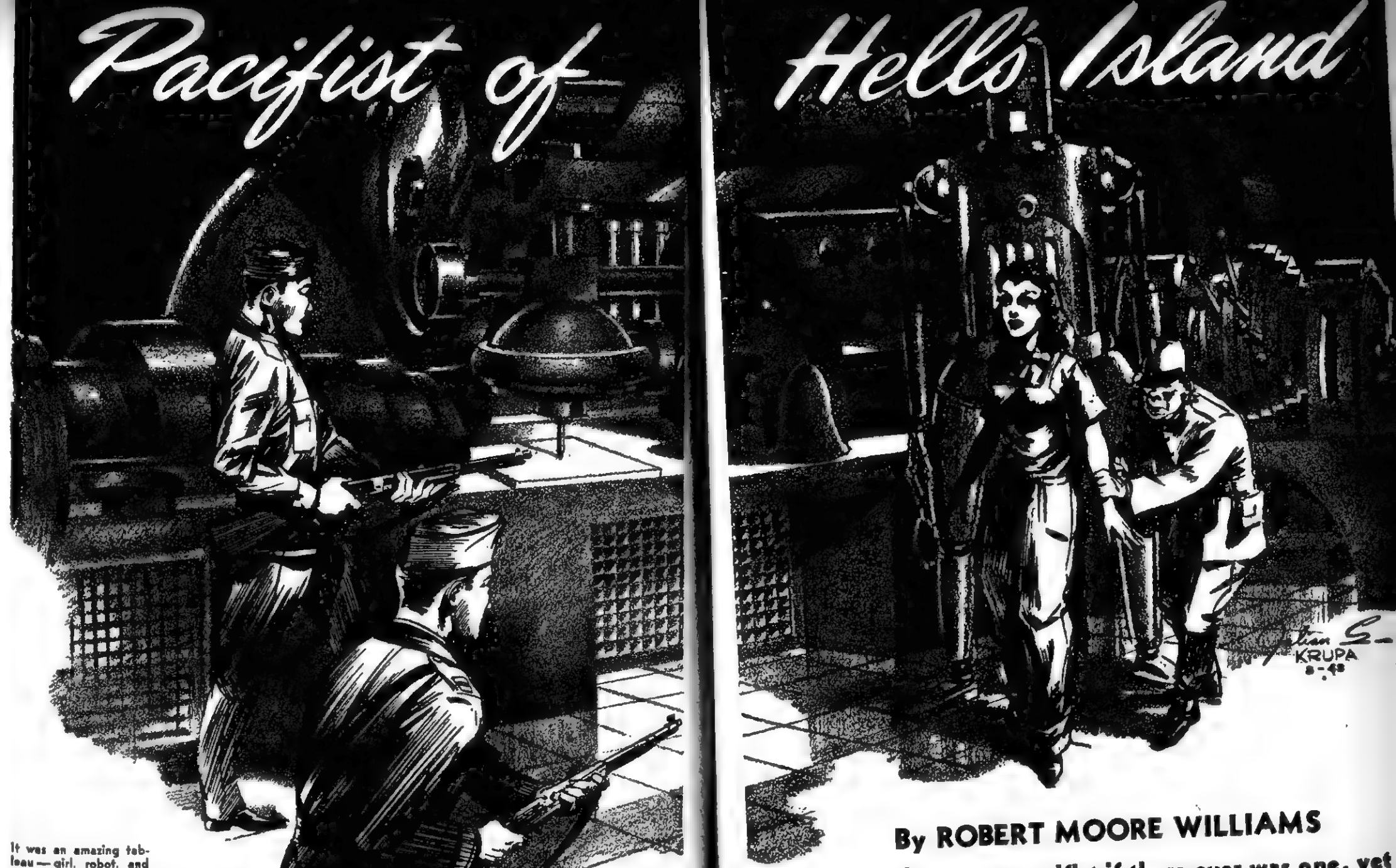
Hell's Island



By ROBERT MOORE WILLIAMS

She was a pacifist if there ever was one, yet when war came to her scientific island, she proved she could face a machine gun as bravely as a man

Pacifist of Hell's Island



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CHAPTER I

To Search an Island

"BUT, Lieutenant," the girl haughtily said, "hasn't it occurred to you that you have not yet asked permission to search this island?"

Lieutenant Martin did not let the start of surprise show on his bronzed face. He looked more closely at this girl seated across from him. She was sitting stiffly erect in an uncomfortable, hand-made chair and she was regarding him with a steady gaze in which inexplicable fury and equally inexplicable fear were mingled. Tanya Hillson was her name. The captains of the trading schooners who had once come here—but came no longer—called her Tanya of Hell's Island.

"'Search' is not quite the word to describe my mission here, Miss Hillson," he said. "I did not come to 'search' the island."

"Then why did you come?" she flung at him.

Lieutenant Martin hesitated. His gaze went along the wide veranda of the sprawling old house. Under the spreading palm trees at the edge of the lagoon, drawn up out of sight of any scouting plane that might pass overhead, he could see the powerful patrol boat that had brought him here. Six marines were busily engaged in putting supplies ashore. In his mind was the thought of his mission. How much could he safely tell her, he wondered. Or could he tell her anything? He did not know this girl, or anything about her, except that she owned this island, that she had operated a coconut plantation here. This much he had been able to gleam from the records. Landing here, he had been greatly surprised to discover she was still on the island. Persons of discretion, especially whites, had long since deserted these atolls of the South Seas.

This girl had not deserted. She had remained. Why? Was it possible that she was cooperating with the Japs?

"I'm looking for the crew of a bomber that was forced down on this island," Lieutenant Martin said. This was not the truth. Air reconnaissance had revealed the existence of a level area several miles inland, which might possibly be developed into a landing field suitable for heavy bombers. An air field anywhere in this South Pacific was a precious thing, to be paid for, if necessary, in blood and sweat. Military campaigns had been fought with no other end in view than the securing of a landing strip. The important thing about an air field on this particular island was that it would be within heavy bomber range of Truk, the main Jap base in the Carolines.

The road to Tokyo passed through Truk, and an air field within range of Truk would be worth the price of a battle fleet.

Lieutenant Martin's mission was to determine something that air reconnaissance could not reveal, whether or not the level area several miles inland could be developed into a landing field. His orders were to proceed with the utmost caution and in complete secrecy. If the air field could be developed, then a landing expedition would drive northward, a horde of men and machines would be disgorged on these white beaches, and the Japs would find that another installment on the price of Pearl Harbor was falling due.

"A bomber forced down here?" Tanya Hillson gasped. She shook her head. "I'm sure it didn't happen. I would have been certain to hear about it. And for that matter," hot anger flowed into her voice, "why would a bombing plane be flying over this

island? Also, why have you come here in an armed boat and why are your men," she gestured toward the beach, "unloading guns here?"

"Why?" Martin almost stuttered. "Why would a bomber be flying over this island! The question is silly."

"It's not silly," she hotly defended. "I demand to know why a bombing plane would be flying here!"

MARTIN stared at her in amazement. A sudden thought struck him. Was it—*could* it be—possible that she had not heard there was a war going on? "Haven't you heard we're fighting a war, Miss Hillson?" he stiffly asked.

The shot went home. She stared incredulously at him. "A war?" she whispered. "Who is fighting? I—the copra schooners have not called in over a year and I thought something was wrong, but—a war!"

"Well, I'm damned!" the lieutenant said. He had assumed there was not a person on earth, including the pgymies in deepest Africa, who did not know that the world was locked in conflict. But this girl had never heard of it.

"My father selected this island for his experiments because—because it was so remote," she explained. "My radio has been out of order for over a year. I sent a list of the new parts I wanted by the last copra schooner but the ship didn't come back and my radio was never repaired. This may sound incredible to you, Lieutenant, but you are the first white person I have seen in over eighteen months. As to this war, tell me about it. Who is fighting?"

The amazed lieutenant told her how the far had started in Europe, how it had spread, how the Japanese, like carrion hyenas scenting possible prey, had launched their treacherous attack on Pearl Harbor, how they had swept down the islands of the Pacific, how they had been tripped in the Coral Sea, at Midway, in the Solomons, and elsewhere, how the fight still went on, and would go on, until Tokyo lay in ruins, until the Japanese navy, that had thought to challenge the world, consisted of nothing more than one row-boat. Tanya Hillson listened.

"I can scarcely believe it," she whispered, when he had finished. "The little Japs, fighting America."

"That's what *we* thought too," Martin said grimly. "We know better now. Which brings me back to my reason for being here. If our fliers are stranded on this island, they must be rescued. Every man counts, in this war. I shall try not to disturb you in any way, but I must be satisfied that our men are not here." He rose to his feet.

"Am I to understand that you are planning to continue this search?" the girl questioned.

"Yes," he said.

"I forbid it!"

"You—" For a moment, the preposterousness of her refusal was unbelievable. "You *forbid* it?"

"Yes. If your men were here, the natives would have reported their presence to me. Since no report has been made, I know they aren't here."

MARTIN stared at her. She was trying to keep him from scouting this island! What was back of her refusal? His lips set in a grim line. He shook his head.

"Sorry, but my orders are to find those men, if they're here. Native reports are too unreliable to trust. I can't take a chance."

She sat very straight in the chair. One tiny foot was tapping the floor.

"Are you telling me that you will use force?" she demanded.

"If necessary, yes," he gruffly answered.

Her face went white at his words. "You are forgetting one thing, Lieutenant Martin," she said. "I own this island. I have the right to forbid trespassing."

"You are forgetting that this is war, Miss Hillson. The right of a private citizen to forbid trespass scarcely extends to control the movement of armed forces." He hated to be tough, but he was curious to know how far she would go in attempting to keep him from searching the island. Was she hiding something? Had the Japs already set up a secret base here and was she working hand in glove with them? Was that why she did not want him to make a search?

"I am not a private citizen of your country, Lieutenant Martin," she said.

"No?" For a moment he was nonplussed. She spoke excellent English and he had assumed she was an American. "I might mention that the English are our allies in this war. Any assistance you render us is the same as helping them."

"I am not a citizen of England either," Tanya Hillson said.

"No? What are you then? Dutch? French? They are our allies too."

"I was born in America but I am not a citizen of any country, Lieutenant. It seemingly has not occurred to you that this island does not belong to any country. It belongs to *me!* and to me alone. It is mine and I rule it. I do not owe allegiance to any nation on the globe."

She had risen to her feet. "My father hated war. That was why he came here, to this remote island which belonged to no country, so he could be certain of peace. He spent his whole life fighting war and the idea of war and at his death—" She broke off. Again the inexplicable fury and the equally inexplicable fear were in her eyes. "I am a pacifist, Lieutenant Martin," she ended. "I will not permit fighting men to land on this island. You and your men must get off immediately! Is that clear?"

He met her angry gaze. "I, too, am a pacifist," he said. "I hate war. I hate it so much that I am fighting to see that no robber nation on the face of the earth will ever again find itself in a position to wage war." He looked northward, in the direction of Japan, and there were angry glints in his eyes.

"That is neither here nor there," Tanyan Hillson said. "You are a fighter and I will not have fighters here. You and your men must leave, at once."

TURNING, she walked into the house. The screen door slammed behind her. On the porch outside, she left an extremely angry and worried lieutenant of marines.

By the time he had reached the beach Lieutenant Martin had decided what he was going to do. When Sergeant Carter came up to him, he said, "Have the men begin stowing that gear back in the boat."

Sergeant Carter was a Texan. He was tall and thin and slightly stooped and he almost always forgot to salute. He looked questioningly at his superior officer. "You mean—" He broke off. "Yes, sir," he said. "Hey, you mugs! The lieutenant says to get busy stowing that stuff back in the boat."

The men glanced at each other. Then, in silence, they began to obey the order.

It was some time later that a fuzzy-headed native girl came down to the boat and addressed herself to the lieutenant. Being unable to understand her, he called Tabora, the native guide, who had brought them here and who was to lead them inland.

"Girl says," Tabora said uneasily, "that Missy wants to know when leave island like she say?"

"Tell her we can't leave until dark because there is too much danger of being spotted by a Jap patrol plane. Tell her we will leave as soon as night comes."

Tabora translated the message and the girl returned to the long log house with it.

"Begging your pardon, sir," Sergeant Carter said. "But are we getting run off of this place?"

He sounded abashed, as if getting run off was something he did not quite understand.

"Why, no," Lieutenant Martin said. "But the girl who owns this island doesn't want us around. I thought it would be easier on her if we waited until dark and then went a few miles down the coast and put ashore again."

"Hot dog!" Sergeant Carter grinned. "I didn't think we were getting run off, even though it did *look* like we were. Lieutenant," the sergeant eagerly questioned, "did she say anything about there being any Japs here?"

"No," Martin said.

"Shucks," Sergeant Carter said disconsolately. "I was hoping maybe we would meet up with some of them little yellow bellies."

CHAPTER II

The Screamers in the Night

"NO GO farther," Tabora protested. The night was hot and silent. Overhead was a full tropic moon. Inland the low island hills looked like hunched-up monsters. The patrol boat had put to sea at dusk. It had landed down the shore and now the men were starting inland.

"Why not?" Lieutenant Martin demanded.

The guide did not want to answer. He was a native of the South Seas and like all natives, he did not much like the dark. Travel after nightfall was a risky business. Devils were abroad then. Tabora shook his mop of kinky hair and the bones braided into it—they might or might not have been human bones, the lieutenant could not decide which—rattled together. "Night bad," he said.

Martin swore under his breath. After he had come this far he was not going to be stopped by a balky guide. "I don't care how bad the night is," he said. "We're going inland."

Tabora did not move. "Run into plenty trouble," he promised. "Better go back. Better do what Missy says."

"What's this?" the lieutenant snapped. "Better do what Miss Hillson says? What do you know about Miss Hillson?"

Tabora shifted uncomfortably. He did not like the tone of the officer's voice. There were other things he did not like. "Plenty trouble," he muttered evasively.

"What kind of trouble?" Martin demanded. "What are you talking about?"

The guide relapsed into sullen silence.

"If you've got anything to say, say it," Martin ordered. "If not, move on." He gestured with the Tommy-gun he was carrying toward the slopes of the hills.

"We go here when Missy tell us not to go, we run into mighty big trouble," Tabora protested. "Me hear stories about Missy. The queen of night-devils. Plenty bad." The words were dragged out reluctantly. Only the order to talk or walk had dragged them out at all.

"Night-devils?" Martin demanded. "What are you talking about?"

But Tabora had said all he was going to say. He had uttered his warning. Either he did not choose to do so or was unable to explain further. Now the situation was up to the white man. If they went on and anything happened, it would be the white man who would be to blame.

Martin stared at the guide in silence. He was aware of a slight feeling of uneasiness. He shrugged it away. Sometimes the weird beliefs of the natives had a foundation of fact but if there were devils here, well he had six good men with him and they all had either Tommy-guns or Garand rifles. Let the devils come!

"Move on," he ordered.

Tabora, after a moment of hesitation, led them toward the low hills.

"You think Fuzzy-wuzzy's got something on his mind he ain't tellin'?" Sergeant Carter asked.

"I don't know," Martin answered. "We'll keep our eyes open."

"You think maybe Missy is working with our little brown brothers?" Carter continued.

"I hope not," the lieutenant answered. "So far as we know, there are no Japs here. Our air patrols have never reported a Jap ship near this island. But if I were the Japs and I had a main base at Truk, I would not let this island go unexplored."

"Why do you think they haven't explored it?" the sergeant questioned.

"*If* they haven't, there is only one reason: not enough time. There are thousands of islands in this area and even the Japs haven't got enough men and ships to explore and hold all of them."

"Well, I was a hopin'—"

"I know," Martin interrupted. "You were hoping we would meet some of them. Well, if they're here, I only hope they don't meet us first."

THE responsibility for the success of his mission was heavy upon him. He didn't have enough men to fight and his orders were not to fight, if he could possibly avoid it. Tabora in the lead, the patrol slipped slowly forward. Fortunately the undergrowth was not as heavy as it had been on Guadalcanal, or progress would have been almost impossible. There was enough moonlight to enable them to see approximately where they were going. As they moved forward, Martin was aware of muttered curses behind them. His men, thinking of snakes, did not relish this night trek. Thinking about snakes also, he bumped heavily into Tabora as the guide suddenly stopped.

"What is it?" the lieutenant questioned.

"Smell," Tabora answered.

As he spoke, Martin became aware of a nauseating odor in the air. It was an odor he had smelled before. Using his flashlight, he moved cautiously forward. He stumbled over the source of the sickening odor before he saw it. Then he turned his flash down.

He had been desperately afraid that the uniform would be that of an American flier. Planes had been lost in this area and the pilots might have found their way ashore. But the flash did not reveal an American uniform. Martin took one look, and quickly snapped the flash off.

Sergeant Carter had come up behind him in time to see what was on the ground. "A dead Jap!" he gasped. He brought up the Tommy-gun he carried, peered into the moonlit darkness. "There are Japs here, Lieutenant."

"There *was* one," Martin admitted. He moved away to escape the terrible odor of death.

The discovery of the dead Jap soldier put a new complexion on matters. The Japs were, or had been, here. As

proof they had left one of their men behind them. Martin had to decide what to do. Should he push onward and take the chance of running straight into a strong Jap force? Or should he sneak back to the boat and return to headquarters, reporting the island already held by the enemy?

"Go back?" Tabora hinted strongly.

Martin made up his mind. One Jap, especially a dead one, did not constitute an enemy force. The dead man might have been a stranded Jap flier. This island had too much potential importance for him to turn back without scouting it thoroughly.

"We'll go on," he said.

"Much bad," Tabora muttered uneasily, but he moved forward.

THEY topped the slope of the low hills. Below them, partly revealed by the moonlight, was a rounded valley, which held possibilities as a landing field. Dotted with clumps of trees that would provide excellent dispersal points for planes, interspersed with what looked like smooth meadows that could be converted into runways with little effort, it looked like a perfect place for a landing field. The surrounding hills were not high enough to provide obstacles to planes taking off from below while at the same time they would serve as excellent locations for anti-aircraft guns.

"Looks like we've found the place we're looking for?" Carter observed, looking at the picture-book scene below them. "Oh oh! What's that?"

From somewhere in the valley below them a long-drawn wail had come.

"EeeeeeeeeOW!"

Starting as a high, thin wail well in the upper register, it held the single note for several seconds, then dropped bluntly down the scale and went into abrupt silence. The night was still. Vague echoes, like frightened puppies obeying the whistle of their master, came creeping back from the farther hills.

"What would that be, do you think?" Carter questioned.

The lieutenant shook his head. "Some animal, I guess," he said. "Maybe Tabora knows what it is." He turned to question the guide. "Tabora what make noise?"

There was no answer. Tabora was gone. A quick search was made but the guide was nowhere to be found. He could not have vanished more completely if the earth had opened and swallowed him.

"Whatever became of him anyhow?" Sergeant Carter complained, mystified. "One second he was here, the next second that thing hollered, then he was gone. Did any of you see him take the air?"

A chorus of "No, no, sir," came from the marines. "These natives are like snakes," one man said. "They can wiggle off through the brush and you never see 'em go."

Lieutenant Martin nodded assent. The natives were experts in the jungle. He did not doubt that Tabora had merely slipped away. The guide had been reluctant to continue anyhow. But why had the strange wail scared him into decamping? He would certainly know the sounds of all wild animals in the region. Why would the cry of an animal scare him into running off? Or had the strange sound come from something other than the throat of an animal?

Martin put out of his mind the feeling of weird danger. His hand closed around the stock of the stubby little gun he carried. The men at his back would follow him to hell, if need be, and stick until hell froze over, then skate on the frozen brimstone. His

orders were to explore this valley. He led the way down the gentle slope, into the broad meadows.

Air photographs had revealed the possibility that these green areas might be meadows. They might be sticky swamps of bottomless mud so overgrown with greenery that their treacherous nature could not be detected from the air. The only way to find out exactly what they were was to send men on foot to investigate them.

MARTIN walked gingerly out of the last clump of trees into the first open spot. The ground was solid beneath his feet. The green areas were not swamps. Her heart leaped at the thought of what that meant.

"This place is made to order," he heard Sergeant Carter exulting. "With a couple of bulldozers and a company of Seabees, we can turn this whole valley into an airfield almost overnight. Won't be much work either. Oh, boy, will them Jappos be surprised when they discover we've got an airport here!"

Carter had hit the nail exactly on the head. Construction of an airport here would be easy. Unlike the back-breaking toil needed to grade landing strips in the jungle, this place was a natural. The building of a field here would be another, and very important, step on the road to Tokyo!

The thought persisted in his mind—How had the Japs happened to miss this island? For years their fishing boats had been exploring the South Seas. How could they have failed to discover the one ready-made air field that probably existed in the whole area?

Martin suddenly s t o p p e d, every sense alert. He had heard a sound. Vaguely he had been aware of it for several minutes, as a whisper lost in the distance. Now he heard it clearly. The patrol drew up even with him.

"What do you make of it?" the Lieutenant asked.

"Damned if it doesn't sound like a machine shop in operation!" Sergeant Carter whispered.

Martin nodded. Incredible as it was, he was hearing the sounds of a machine shop, the thin high whine of a grinding machine, the thump of a punch press, the dull rumble of power-driven machinery. The medley of noises came vaguely from the farther slope.

"Dang me if I understand this!" Carter whispered. "There just ain't any machine shops in these islands. These fuzzy-headed natives don't know beans about machines. What do you think about this, sir? Is somebody running a machine shop over there on the slope or have we gone nuts and don't know it?"

"I don't know," Martin answered. "But I'm going to find out."

Turning, he led the way toward the nearest clump of trees. His purpose was to put the men in hiding, then take a volunteer and scout the mysterious machine shop. Taking the whole patrol on the mission would only increase the chances of detection and would gain nothing. The c l u m p of trees would form an excellent hiding place. Martin forced his way into the heavy growth, tripped over something on the ground and fell heavily. He was not hurt but his Tommy-gun was catapulted out of his hands. Feeling for it, his fingers closed around the stock. He got to his feet before he discovered he was not holding the gun he had dropped. He had dropped a sub machinegun. He had picked up a light rifle.

Cautiously using his flash, he found his own gun. He also discovered that the weapon he had picked up was a Jap rifle. It was the rifle that he had

tripped over when he fell.

"Holy jumping catfish!" Sergeant Carter gasped. "A Jap gun." Without waiting for instructions, he swiftly began giving orders to search the clump of trees. "And you monkeys be careful," he warned. "There's something rotten as hell around here."

IT WAS a warning the men did not need. Expert jungle fighters, they had already met the Jap and they knew what to expect from him. Around him in the darkness Martin could hear sounds of an extremely cautious search going forward. Then the men began slipping steathily back to him to report.

"Couple of Jap machine guns set up over there," the first said.

"I found two rifles and four grenades," the second reported. "Also one of those grenade-throwing Jap mortars."

Martin listened in incredulous amazement. When the final report was in, he had a picture that left him bewildered. In this clump of trees a Jap patrol had fought to the last man! All the evidence of battle was here, broken weapons, trees torn by bullets, ammunition broken out but not used. The final item was conclusive.

"There was a big common grave in the middle of this bunch of trees," one man reported. "It's almost covered with Jap helmets."

"What were the Japs fighting?" Martin asked.

There was no answer. A careful check of the patrol indicated that no one had found anything to reveal what the Japs had been fighting. They had fought *something*. That much was obvious. But what?

"What difference does it make what they fought?" Carter wanted to know. "Anybody who kills Japs is a friend of ours!"

"Maybe," Lieutenant Martin said.

Obviously the Japs had discovered this island. They had also made an effort to explore it. They had run into sudden death and destruction. What had they found here? There were no American, British, or Dutch soldiers on the island. Natives could scarcely annihilate a strong Jap patrol. But the Japs had been annihilated.

Martin had the dark suspicion that his proper move was to get to hell away from here as fast as possible. Death was lurking here on this island and he suspected it would not distinguish between Jap and American soldiers. He ought to run.

"I want a volunteer to go with me to investigate that mysterious machine shop," he said.

"Me, I'm that man," Sergeant Carter said. "You think that machine shop has got anything to do with what happened to these Jappos we found here?"

"That is one of the things I'm hoping to discover," Martin answered.

THEY waited a long time at the edge of the clump of trees. In the moonlight the little valley looked like paradise. A soft mist was rising from the ground. The whole area looked like a beautiful and well-tended country estate, like a stretch of peaceful, well-cared-for farm land.

It was beautiful all right but Martin had grave doubts about it being so peaceful.

In the distance he could hear the machine shop running. He stepped out of the trees, moved slowly toward the sound. Sergeant Carter followed him.

CHAPTER III

The Giant Walkers

"Eeeeeyow!"

The same shrill cry that they

had heard once before again roared in the night. It came from the slope ahead of them. It roared once, then was silent. The echoes of the sound went hunting through the trees on the hills. Martin felt his skin crawl. To his knowledge there was no jungle animal with a cry like this. The scream of a maimed tiger was not so fierce or so shrill. He kept moving.

"There's something following us," Carter whispered behind him.

Martin turned. They were out in the open, well away from the clump of trees they had quitted and not yet to the hill slope. Bright moonlight lay over the valley. Straining his eyes, he caught a glimpse of something vague and indistinct. He saw it, then didn't see it, then saw it again. It stopped moving, seemed to be looking toward them.

Sergeant Carter slid his Garand to his shoulder. He shuffled his feet, spread them a little apart, seeking a firm footing. His c h e e k slid down against the stock. "Say the word, Lieutenant, and I'll knock me a hole in whatever that is."

"Don't shoot," Martin said. He remembered the Jap patrol. The Japs had shot at something and had died. He was not going to do any shooting unless it was forced on him.

The dark blob stood very still. It made no move toward them. Nor did it go away. It just stood there, looking in their direction.

It wasn't, couldn't be, an animal. It was about six or seven feet tall and looked more like a man than anything else. In the moonlight it was just a dim vague figure.

"Could that be one of these Indians in his war-dress?" Carter whispered. To the Texan, all natives were Indians.

"Maybe," Martin answered. The war-dresses of the natives were often outlandish creations, designed to scare the enemy. The motionless figure could be a native. It could be something else too, and it was this something else that was sending cold shivers down the lieutenant's back. "We'll move slowly away and see if it follows us," he said.

Bending low, they began to slip away. The wooded slope was not over two hundred yards distant. Once they reached the shelter of the trees, they would be safer.

"Is it coming?" Martin whispered.

Carter had the eyes of a hawk. He squinted into the moonlight. "It hasn't moved," he announced.

"Good! When daylight comes we'll find out what is going on here—" Martin broke off. In the shadow of the trees something had moved. He froze. From the distance came the mutter of the machine shop operating here in a place where machines were not known. Above the dim drone of the machine shop was another sound—the heavy, ponderous tread of feet, coming toward them.

"Sounds like a giant walkin'," Carter whispered.

Clump, clump, clump! The sounds seemed to come from the shadow of the trees where he had glimpsed the movement. Then they seemed to come from the right and again from the left. Like giants walking in the night, the sounds grew louder.

"Holy hell!" Martin gasped. "We're surrounded. They're coming from all directions!"

From the right and the left dim figures were moving toward them. A third was coming out of the shadows of the trees. Glancing quickly behind, Martin saw that the first one they had seen had now started moving again and was coming toward them.

Clump, clump, clump, heavy foot-

steps sounded in the night as the grim circle closed around them.

Carter dropped to one knee, cuddled the gun against his cheek.

"Say when, Lieutenant," he said.

Martin's nerves were trying to run away with him. Desperately he wanted to tell the sergeant to shoot and to open fire himself. He could see the giants looming closer now. They were taller and bigger in every way than men.

"Say when," Carter begged.

MARTIN was in a quandary. If he was going to fight, he had to start soon. In war, late was always too late. The damned things, whatever they were, were coming closer. He had to make up his mind, quickly. The words to fire were on his lips. He fought them back. The Japs had tried shooting.

"Don't shoot!" he said.

"What?" Carter gasped. "I mean, sir—" Carter choked. "Them damned things are almost on us, Lieutenant!"

"I know. Don't shoot unless they clearly show their hostile intentions."

Carter was silent. What he was thinking, Martin didn't know, but it was probably plenty. The lieutenant was doing some thinking himself and he didn't like any of it. He turned his back on Carter, so the two of them would cover all directions, gripped the stock of his gun, and waited.

Sweat was sliding down over his body. It was a cold sweat and it ran in icy streams. The giant walkers in the night came closer. Martin could feel the hair rise on the back of his neck. His nerves were screaming little red imps begging him to run. He stood fast. Behind him he could hear Carter cursing softly.

The black giant was twenty feet away, it was ten feet away and still coming.

"Lieutenant—" Carter whispered.

"Hold it!" Martin snapped.

The black giant loomed up ahead of him. It walked on two feet and it had arms and a head. It looked—Martin dazedly realized—like a man in armor. Five feet away it stopped.

The lieutenant glanced quickly around. The other three had stopped too. He and Carter were the center of a tight little circle.

"Well?" Martin said. "What do you want?"

There was no answer. The thing in front of him stared at him. It did not move.

"Speak up!" Martin said harshly. In his mind was the thought that if these black monstrosities understood any language, it would not be English.

The hulk standing in front of him spoke.

"Shoot!" it said.

"What?" Martin gasped.

"Shoot!" it repeated.

Martin could only stare. Behind him he heard Carter stop swearing. "The danged thing is asking us to shoot it, Lieutenant," the sergeant whispered.

The black giant waited patiently.

"Why don't you go on and shoot?" it questioned. There was a plaintive, bewildered note in its voice. It sounded as if it had run into something it could not understand.

"Why should we shoot?" Martin exploded. "What the hell is the matter with you? Are you trying to commit suicide?"

There was no answer. The four giants seemed to confer silently. There was an air of disappointment about them. Finally the one standing in front of the lieutenant turned and started away. "Come with," it said to him, motioning back over its shoulder.

"Come with where?" Martin demanded.

The thing stopped. "Not coming?" it questioned. There was a note of eagerness in its voice as though it anticipated resistance and was pleased about that. The other three were suddenly very intent on the two men. Somehow they looked like cats inviting a mouse to run.

"Not coming?" the first one repeated. Again Martin caught the eagerness in the voice. He took a deep breath. Not even Hans Anderson had dreamed of a madder situation. "We're coming," he said. "Lead on."

Again the giant seemed disappointed. "Sure you want to come?" it asked. There was a hopeful note in its voice, as though it was somehow pleading with him to resist.

"I'll say I'm not certain I want to come," Martin said. "But we're coming just the same. Lead on, Macduff." He was almost hysterical.

SADLY the black thing that might or might not be a man in armor shook its head. Quite obviously it was disappointed. It turned and walked stolidly toward the slope of the hills. Martin and Carter followed. The three black giants brought up the rear.

"Lieutenant, they haven't taken our guns away from us!" Carter husked.

"I know they haven't."

"If you say the word—"

"Don't you dare start shooting. I have a hunch that is exactly what they want us to do. I think that is why they let us keep our guns, so we will be tempted to start shooting."

"Gosh!" Carter gasped. "I never thought of that. What are these things?"

"Your guess is as good as mine," Martin answered. "Whatever you do, don't try to resist."

THE black giant in front led them directly toward the low hills. Following a well-defined path, they entered the trees. The sound of the machine shop was louder here. Martin was aware that the path seemed to be becoming deeper. It resembled the cut leading to a railroad tunnel. It ended in a heavy door, which the giant opened.

Light spewed out of the opening. The roar of the machines became louder. Stooping, the giant entered. Martin followed. Three things struck his eyes. The first was a Japanese wearing the uniform of the imperial army, the insignia of a captain on the collar of his tunic. The second was the machine shop. Built underground, it stretched away into the distance, a maze of pounding, thumping, whirring machines.

The third thing he saw was a girl. Tanya Hillson. When he had first met her she had been wearing a soft clinging dress that had made her look very feminine. Now she was clad in a pair of grease-streaked overalls. Looking like a first-class mechanic, she was listening carefully to something the Jap captain was saying.

"Missy—" the giant politely said.

She looked up. "Hello, Eight," she said. "What is it?" Then she saw Martin. Her eyes popped open.

"What are you doing here?" she demanded. "I thought I told you to get off of this island and to stay off! Where did you come from?"

The tirade left Martin at a loss for speech. "Where do you think I came from?" he snapped.

Angry glints appeared in her eyes. She half raised the wrench she had in her hands, as though to throw it at him, then thought better of it. "Answer my question!" she said.

Martin took a firm rein on his temper. There was no point in antagonizing this girl. She was a spoiled brat and badly in need of spanking but

spanking her was not a part of his job. Nor was it a part of his job to explain truthfully his presence here, especially in the presence of an interested Jap officer. "One of our motors went blotto," he said suavely. "We had to put back to shore to make repairs. Sergeant Carter and I came up into the hills to scout for possible enemies. Your pal," he nodded toward the black giant, "caught us and told us to come with him. That's why we're here, and if we're trespassing, I can only apologize and say that the matter is none of our doing."

There were holes in his story big enough to drive a truck through and he knew it but it was the best he could do on the spur of the moment. Would the girl detect the flaws? He watched her closely. For an instant, she hesitated and looked doubtfully at him.

"You shouldn't have left the boat," she said at last. "As long as you were repairing it, you would have been safe."

"We should never have left the United States either," Martin said. "We would have been pretty safe there." He grinned. "Sorry, Miss Hillson. I don't want to fight with you. The truth of the matter is, we're in a spot. I'm scared right down to the soles of my feet and I'm likely to snap at anybody or anything. I apologize. But for Pete's sake, Miss Hillson, will you tell me what's going on here before I go nuts?"

FOR a second angry lights glittered in the girl's eyes and Martin wondered if he had said the right thing. Then, a little by a little, the angry lights began to go away. When she spoke her voice had lost its harsh edge.

"I imagine you are rather surprised, Lieutenant," she said. "Anyone meeting Eight without any advance warning could be forgiven for being both surprised and scared. Eight's appearance is all against him. However," familiarily she reached up and slapped the black giant standing near her, "Eight is entirely harmless."

"Eight?" Martin echoed.

"Yes," the girl answered proudly. "Eight is a robot and we have always given them numbers instead of names. He was my father's finest invention."

"Robot? Invention?" the dazed lieutenant whispered. "What are you talking about, Miss Hillson? Do you mean that Eight is a mechanical man, that he thinks and acts for himself?"

"Yes," was the calm answer. "My father spent most of his life developing an artificial brain substance and in designing and perfecting the mechanisms necessary to permit his robots to move and act for themselves. He came here, to this island where he was sure he would not be interrupted, and with the help of natives built this machine shop. After the robots were perfected, they helped him in his work, enlarging the machine shop. There is a solid sub-stratum of almost pure iron ore underlying this hill, which provided him with a source of metal. In time the robots enlarged the tunnels of the mine and moved the shop underground. After his death, I carried on with his work, hoping that some day his great dream would come true."

She spoke in a matter-of-fact voice and was apparently not aware that she was describing what would be the miracle of the machine age if the invention were publicized. Robots that could think and act for themselves! Martin could imagine what a stir the announcement of that invention would make in scientific and industrial circles. The invention of the dynamo, of the steam engine, of the internal combustion motor, were nothing in comparison. Only with difficulty could Martin bring him-

self to believe she was telling the truth. But he had seen Eight and three of his comrades in action. He could not doubt the evidence of his own eyes.

The girl regarded his surprise with gratification. "I see you are greatly impressed," she said. "Now you can understand why I did not want you and your men to explore this island. You would be certain to discover my robots and I do not want them discovered until I am ready to use them to fulfill the purpose for which my father designed them."

The Jap captain spoke for the first time. He bowed and sucked in his breath. "But, Miss Hillson," he said, in excellent English. "It is perhaps not wise—"

The girl glanced at him. "What would not be wise, Captain Susuma?" she asked.

The Jap bowed. His slant eyes flicked toward the two Americans. "They might not be exactly agreeable toward the use we have planned for—ah—your robots. They might object to your—ah—plans for bringing your father's glorious dream to completion. Under the circumstances, it might not wise—"

SINCE they had entered the underground machine shop Carter had not spoken. Nor did he speak now but Martin was aware that the sergeant was staring at the Jap in somewhat the manner of a grizzled hunting dog that has located a dangerous animal.

The girl hesitated. "Captain Susuma has just arrived," she explained to Martin. "He confirmed your story of the war that is being fought. Somehow or other he had managed to learn about my robots and he has come to me with some interesting plans for their use."

"I am sure that any plans Captain Susuma has made would be interesting," Martin said guardedly. He tried not to show that he had no idea what Tanya was talking about. He gathered that her father had designed the robots for some purpose and he was beginning to wonder what that purpose was.

Tanya Hillson regarded him thoughtfully. She semed to be trying to make up her mind about something. "I believe you told me you were a pacifist, didn't you, Lieutenant Martin?"

Martin nodded. What the devil was the girl driving at? What did his desire for peace have to do with the robots? Her question didn't make sense.

The girl looked at the Jap. "I believe we can reveal our plans to them," she said. "After all, Lieutenant Martin is himself a pacifist."

Captain Susuma looked displeased but he tried to hide his displeasure with a smile. "As you prefer, Miss Hillson," he said bowing.

"My father," Tanya Hillson said to Martin, "was a pacifist. He hated war as no one has ever hated it on earth. All the senseless killing, all the senseless destruction, the loss of lives, the turning back the clock—he hated all of this. His purpose in designing the robots was to stop war forever."

Martin said nothing. A pacifist-minded genius had constructed some remarkable robots, to prevent war. How the robots were to prevent war, Martin did not see.

"The robots are to be a world-wide police force," Tanya Hillson triumphantly explained. "They are to be grouped into an army, the best army the world has ever seen. They can fight in the desert, in the jungle, in the Arctic circle, with equal ease. They don't catch fever, they don't run out of supplies and have to stop, they don't get hungry, and they don't become

tired. Each robot can carry enough concentrated fuel to last for months. Certain specialized ones, serving as repair robots, accompany the army. They're armored so heavily that an ordinary rifle bullet won't harm them. And—most important of all—we are now developing special airplanes for them, huge ships bigger even than your flying fortresses, armored with steel and armed with fast-firing, long-range cannon. No plane in existence can stand against them."

"Um," Martin said thoughtfully.

"There are to be five robot armies, complete with every weapon an army needs, located in each of the continents. Their purpose will be to keep the peace. Any nation that starts a war will instantly find a robot army moving against it, robot airplanes in the sky above it. The nation will be warned. If it persists in making war, it will be utterly destroyed."

THE girl was a little breathless when she finished describing the robot armies and how they were to be used. Martin's face showed nothing of what he was thinking. He did not doubt these hulking metal monstrosities would make first-class fighters. An army of them would be powerful indeed. A world-wide robot police force! There was something fascinating about the idea. And something that he did not at all trust. "Supposing," he said, looking at Captain Susuma, "supposing Japan suddenly hauls off and clips Uncle Sam behind the ear. Do the robots jump on Japan and us too?"

"Japan never do that!" Captain Susuma hastily said. "Japan peaceful nation."

"I asked Miss Hillson," Martin said.

"If a war starts, the aggressor nation will be punished," Tanya Hillson said.

"Um," said Martin. "Who will determine who is the aggressor?"

"Robot watchers will be posted in every nation," the girl explained. "They will determine which country is in the wrong."

"I see," Martin said. The tone of his voice indicated he did not see at all. "That only leaves the question: The robots will watch everybody but who will watch the robots?"

The girl did not seem to understand.

"You will have set up an all-powerful police force that no nation can resist," Martin explained. "Who will keep the police in line? Who will make certain that the police do not start running wild? Who controls the cops?"

"The robots will control themselves. They are intelligent."

"But if they *don't* control themselves? What then?"

"They *will* control themselves," the girl insisted. "They *have* to. Their minds are so constructed that it is impossible for them to attack human beings."

"It is?"

Captain Susuma glanced quickly at him. "Let us bring this discussion to an end, if you please. I am sure Lieutenant Martin understands all that is necessary."

"I don't understand," Martin said stubbornly. "I want to know why it is impossible for the robots to attack humans."

"Their minds are made that way. They can only attack men if the men resist them as they carry out their police duties. And since they will always be in the right, no resistance will ever be made to them."

"I see," said Martin. "But what if your super-policemen go around *inviting* resistance? Supose I am walking down the street and a robot cop is coming from the other direction. I am well within my rights in walking down the

street. The cop refuses to step aside and let me pass. What is going to happen then?"

"That is a silly question," Tanya Hillson snapped. "You seem to have little understanding of the real nature of the robots."

"You seem to have little understanding of human nature," Martin answered. "Your scheme won't work. People simply won't stand for any superpolice force pushing them around."

"I thought you were a pacifist," the girl said hotly.

"I am a pacifist," Martin answered. "As long as my rights are respected, I am a peaceful man. But nobody," he looked from Captain Susuma to the hulking figure of Eight, "is going to push me around. If anybody, including your robots, tries it, there is certain to be resistance."

IN the hot silence that followed, Martin heard Sergeant Carter speak for the first time since they had entered this underground machine shop. "At 'a time, Lieutenant," Sergeant Carter said.

"Your attitude does much to convince me of the truth of what Captain Susuma has been telling me," Tanya Hillson said coldly. "I admit I was in doubt for a while, but after this I am convinced that Captain Susuma is in the right."

"What are you talking about?" Martin said. Something about the girl's words sent a touch of chill over him. All the information he had gained on Guadalcanal and other islands of the area had given him the idea that the only good Jap was a dead Jap. He strongly suspected that this idea should include Captain Susuma.

"Captain Susuma has been telling me that America was the aggressor in the present war," Tanya Hillson said.

"What?" Martin gasped.

"America attacked Japan," the girl repeated.

The Jap bowed. "Very true statement," he said.

"That is the damnedest lie that was ever uttered," Martin said. There was so much suppressed fury in his voice that Eight turned and looked interestedly at him. "Didn't he tell you about Pearl Harbor? Didn't he tell you about the sneaking, treacherous, stab in the back that Japan delivered there? How can he say that America started this war after what happened at Pearl Harbor?"

Captain Susuma remained his urbane self. Tanya Hillson showed no concern whatsoever. "He has explained that to me," she said.

"Explained it! How?"

"America fired the first shot. After that, the Japanese forces were merely protecting themselves."

Martin stared in consternation at her.

"American destroyer sink Japanese submarine," Captain Susuma hissed. "This was an act of war. Honorable Japanese merely protecting themselves after destroyer sink sub."

Martin opened his mouth, then clicked it shut. He had heard the story the Japanese propaganda ministry had put out after Pearl Harbor, that an American destroyer had fired on a Jap sub lurking in the harbor mouth, thus precipitating the conflict. Oddly, there was a grain of truth in the story. A destroyer had sunk a sub a few minutes before the Jap planes delivered their treacherous blow. The sub had been in forbidden waters and the planes had already been on their way to attack when the undersea sneaker was sunk but out of this fact the Japs had tried to make Pearl Harbor seem to be purely defensive on their part.

"That is correct," Martin said.

"He admits it!" Captain Susuma exulted.

"Wait until I finish," Martin snapped. He turned to the girl. "Captain Susuma is telling only part of the truth," he explained. "The whole truth is that the Japs had planned to drive the fleet out of the harbor by an air attack. As the fleet came out, the subs would sink them. One of their subs was sunk just a few minutes before the planes hit us. That is the whole truth of the matter."

A doubtful look appeared on the girl's face. She glanced at the Jap. "It is a lie," the Jap said fiercely. "After submarine was sunk, planes were sent in from carriers maneuvering to the north of Hawaii as a part of our war games. Japan peaceful country. Desire only prosperity for Asia and peace for itself. I ask you," he said pleadingly, "is it reasonable that little Japan attack great, mighty America? No! It is not reasonable. Japan only defending self. Never under any circumstances start war with great United States."

ON THE face of it, his specious argument seemed reasonable. The truth was that Japan had been preparing for the war for at least twenty years. Tanya Hillson, isolated on this tiny island, had no way of knowing the truth. She looked at Martin. "You—you admit your side did fire the first shot?" she asked.

"Yes, but we were forced to fire it," he said. "We're going to fire the last one too. Anyhow, what difference does it make? I know we're in the right, but I don't see any point in my arguing the matter with you. You're not in this war and you're not helping fight it. You're a pacifist and the war is of no concern to you."

Ever since she had first met this bronzed marine, he had irritated her. The irritation sprang from her desire to have him recognize that she was a woman, and desirable, which he did not seem inclined to admit. The tone of his voice when he said she was a pacifist and the war was of no concern to her, added to her irritation.

"It makes this difference," she snapped. "Japan is defending itself. Captain Susuma has come to me and asked me for the help of my robots in resisting the attack of an aggressor nation. That is the difference it makes, Lieutenant Martin. I, personally, am completely neutral, but my robots will fight on the side of Japan and will aid the Empire of the Rising Sun in restoring order on earth!"

When she finished speaking, Captain Susuma looked like a cat that has swallowed an extremely luscious canary. As a reward for winning Tanya Hillson and her robots to his side, he saw himself being promoted, being made a general, being received by the Emperor — he sucked in his breath at the very thought —becoming a member of the war cabinet. Nothing would be too good for the man who gave Japan the means of winning the war. He could become, eventually, dictator of Japan, take Tojo's place. He saw himself as ruler of the continent of Asia, and, with Tanya Hillson's robots fighting as he commanded, master of earth's destiny!

"Velly wise decision," Captain Susuma said.

In the hot silence that followed a single voice spoke. "Shall I shoot the little yellow belly now, Lieutenant?" Sergeant Carter asked.

CHAPTER IV

Surrender

CAPTAIN SUSUMA'S face turned yellow green when the sergeant

spoke. Dying for the Emperor was fine in theory but the Captain was not anxious to see this theory put into practice. From the look in the Texan's eyes, Captain Susuma suspected this theory was about to be put into practice, with him as the object. Under such circumstances, there was only one thing for a sensible son of Nippon to do. Captain Susuma did it. He ducked hastily behind Tanya Hillson. Unlike the Japanese, who were strong in this respect, it was well-known that the weak moral fiber of the Americans did not permit them to shoot women. Behind the girl, Captain Susuma was quite safe.

"Put down that gun!" Tanya Hillson snapped. "I'll have no fighting here."

Sergeant Carter reluctantly lowered the rifle.

"Would you have shot him?" she demanded.

"Well, I reckon not," the abashed sergeant admitted. "Not unless I could have flushed him, Ma'am. It wouldn't have been quite right to have shot him sittin'."

"Then why did you threaten him?"

"I wanted to get a look at the color of his gizzard," Carter answered grimly. "I wanted to find out if it was the same color as his skin."

For an instant the startled girl looked at him. "Give me that gun," she demanded, advancing toward him.

The sergeant backed away from her. He would have retreated from no man on earth, but against this girl he had no defense. He looked imploringly at his lieutenant. Martin shook his head.

"Stand back, Ma'am," the sergeant said. "I got my orders not to give up this gun—"

"Orders countermanded," Martin said. "Hand her the gun."

"But—you just said—" Carter was completely bewildered.

"Give her the gun!" Martin snapped. At the same time he slowly bent down and laid his own gun on the floor. Carter reluctantly surrendered his weapon.

Eight settled back on his heels. When the girl had demanded the sergeant's rifle, the giant robot had seemed to lean forward. The photoelectric cells that served as eyes had somehow lighted with eagerness. The great arms had come forward. Eight had gotten ready to spring. His three companions had also tensed themselves.

Martin had seen the robot's movements and he had sensed their meaning. The robots had been designed to serve as a police force. If there was resistance to Tanya Hillson's orders, the huge metal men would come to her aid.

EIGHT looked disappointed when the two Americans laid down their weapons. The luster of his eyes seemed to dim a little, as though something he hoped would happen hadn't come out the way he wanted. Martin had the strong impression that Eight remained watchful and alert.

"Well, you've got us," Martin said to the girl. "What are you going to do with us?"

The girl looked surprised. This was a question that had not occurred to her. "Do with you?" she said doubtfully. "I—I don't know."

"Shoot them!" Captain Susuma said vigorously. The Jap had recovered from his fright. "No good to us," he said. "Shoot them."

Tanya Hillson turned on him. "I'm surprised at you!" she said angrily. "True pacifism does not justify murder under any circumstances. We shall certainly not shoot them. They have as much right to live as we have, even if they are misguided. I am astonished that you should suggest such a thing. It makes me wonder whether you are

really a pacifist."

Captain Susuma flushed. In his country women spoke only when spoken to, and then only in soft tones. He checked an angry retort.

"Spoke before thinking," he said apologetically. "Respectfully suggest hold them prisoner until—" He caught himself. "Until we have opportunity to send them to place where they belong."

Martin grimly wondered what the Jap had in mind when he suggested sending the Americans to the place where they belonged. Where, in Captain Susuma's opinion, would two marines belong? He did not get a chance to ask any questions on this point. He and Carter were promptly marched off to a small room that had apparently once served as a storage cubbyhole. It was empty now.

"Sorry, but we'll have to hold you as prisoners," Tanya Hillson said apologetically. "Of course if you care to give me your word of honor that you will not attempt to escape—"

"Respectfully suggest not offer parole," Captain Susuma protested.

"Don't worry, we're not giving it," Martin said.

The Jap glared at him and again the lieutenant had the impression Captain Susuma wanted to say something but didn't dare.

"You going to work with him?" Martin asked Tanya Hillson, jerking his thumb toward Susuma.

"Of course. Why do you ask?"

"No reason," the lieutenant answered. "But I suggest you watch him like you would a snake. He isn't really a pacifist. He's only pretending to be one, to gain your confidence. When the chance comes, he'll double-cross you as sure as shooting."

"Nonsense!" the girl retorted. "Captain Susuma is a true pacifist. You are a poor judge of men, Lieutenant Martin."

"That may be," Martin said. "But I'm a good judge of Japs."

Captain Susuma was unarmed. As the Americans spoke, the Jap's hand flashed toward his hip, the spot where a revolver would have hung if he had been carrying one. Martin knew what would have happened if the Jap had been carrying a gun.

"See!" he said to the girl.

"So sorry," the Jap said. "Reaching for handkerchief, not for gun, as lieutenant seems to think. Suggest we leave now," he said to the girl. "Have many things to do."

MARTIN and Carter were left alone. The room was without a door and seemingly nothing prevented their escape. The lieutenant went to the threshold.

In the corridor outside one of the metal robots was on guard. It saw the two men in the doorway. "Try to escape?" it said hopefully, starting toward them.

They stepped back into the room. The metal creature looked in at them as though it were thinking of coming in and pulling them out. Then it stepped back out of sight. But they knew it would be waiting for them if they tried to escape.

Sergeant Carter looked around the room. It was really nothing more than a hole cut out of the solid stone core of the hills. There were no windows and only one door. A light bulb in the ceiling provided illumination. Carter shook his head. "I wish I was back in Texas," he said mournfully.

"We are in a spot," Martin admitted. "Who would ever have thought that on a tiny island in the Pacific a crackpot inventor would have built anything like these robots?"

"I don't mind those robots as much as I mind Captain Susuma," Carter said. "That little slant-eyed monkey ain't up to no good, Lieutenant. Do you suppose he belonged to that bunch of Japs we found back there in the grove? Incidentally, what do you think happened to those little devils? How did they get knocked off?"

"I don't know," Martin said. "But I suspect the robots got them."

There were other things that he suspected about the robots but he preferred not to talk about them. He sat down with his back against the rough stone wall. One thought was in his mind: "We—some of us—any of us—have got to get out of here."

He was in possession of enough facts to make a complete report. Headquarters might not believe part of his report—he could imagine how much the colonel's gray eyes would resemble cold chilled steel when he reported the robots—but part of it would be believed, and promptly acted upon. A first-class landing field could be established on this island. That one fact would set a strong landing force in motion. There were some Japs already here but they were not yet present in strength. This second fact would bring fast action.

All that was needed was for one man to get back to headquarters to report.

From the corridor outside came a metallic clank as the robot on guard shifted its position. At the sound, a grim look came over Martin's face. Somehow, one of them had to get by that robot, had to get out of this underground machine shop, had to pick up the patrol, had to reach the boat, had to—

"Sergeant Carter," he said.

"Yes, sir," Carter answered.

Martin leaned over and whispered in the sergeant's ear. "This is what I want you to do," he said. As his plan unfolded, an amazed look appeared on Carter's face. The amazement gave way to rebellion. "But, Lieutenant—" the sergeant protested.

"No buts," Martin said harshly. "This is an order. You carry it out."

"Yes—yes, sir," Carter swallowed. "But if the Lieutenant will permit me, sir—"

"The Lieutenant will permit nothing except obedience," Martin said. He got to his feet. From the stone wall, he pried a chunk of rock. Taking careful aim, he flung it at the light bulb hanging from the ceiling.

With a dull *plop* the bulb exploded. For an instant the filament burned with intense brilliance. Then it went out. The cell was left in darkness. From the corridor outside came the clank of the robot guard as he hurried to the door to investigate the sound.

"Stand beside the door and be ready!" Martin hissed.

"Yes, sir," Carter answered.

MARTIN leaped out of the room. In the dimly-lighted corridor, the robot loomed before him. It was whining softly, like a dog that has sighted its prey and is eager to be in at the kill. Ponderous, metallic arms reached for him. There was hideous strength in those metal claws. They would literally tear him to pieces if they once got hold of him, Martin knew. He was betting on one thing: that he could move faster than the robot. A million years of evolution had gone into the building of the cunning muscles and nerves that controlled the human body. The robot simply could not be as efficient in movement as a man. Or so Martin hoped. The metal hands moved toward him. He ducked under them, squeezed between the robot and the wall. For a split second the robot, sensing what was happening, tried to squeeze him against

the wall. He wiggled free. The hands grasped for him, missed him. He ran down the corridor. The robot turned, followed him. Martin glanced back over his shoulder. The metal monster was racing after him. Sergeant Carter, bent low, was running in the other direction.

Martin's heart leaped at the sight. It had been his plan to knock out the light, slip past the robot, and run down the corridor. If the robot followed him, Carter was to run in the other direction. That way, Carter would have a chance to escape. The sergeant was to find his way out of the underground machine shop, pick up the patrol, return to the boat, and burn the wind back to headquarters.

Martin was to stay alive, if he could.

The corridor was an old mine tunnel. Strung from wires along the roof, lights at infrequent intervals provided illumination. Fortunately no other robots were in the tunnel but behind him Martin could hear his pursuer running heavily. He looked back. The robot was gaining. Ponderous as the mechanical man was, on a straight stretch it could run very rapidly. It was overhauling him. He could hear it whimpering eagerly as it chased him. Martin ran faster. He rounded a curve and saw a door ahead of him.

"If that door is locked, I'm a dead monkey," he thought. He twisted the knob. It refused to turn in his hands. The door was locked.

The robot rounded the curve, saw its trapped victim, squealed triumphantly. It charged toward him.

He leaped up, toward the low ceiling of the tunnel, grabbed the light wires in his hands, jerked them viciously from the insulators that held them in place.

The lights in the tunnel went out.

Martin flung himself flat on the floor against the wall. Gravel flew in his face as the robot slid to a stop. It stood there in the darkness, listening. The marine held his breath. It clumped forward.

Whang!

One of the metal fists pounded against the door.

"Open!" the robot grunted savagely. "Lights out. Prisoner loose. Open door. Catch prisoner. Help tear him to small pieces."

There was no answer from the other side of the door, or, if there was one, Martin could not hear it. The robot listened. The marine did not dare to move. Abruptly the robot went mad. It began to pound with both metal fists against the door. The heavy planks gave under the blows but did not give enough. The robot backed up, charged headfirst. The door went down with a crash.

The machine shop lay beyond. Oddly, the machines were silent now, the shop deserted. The robot charged straight through the shop. Martin saw it running madly down the main aisle. It went through the door at the far end.

The marine stared in amazement after it. "Well, I'll be a son-of-a-gun," he said. "It forgot all about me!"

One minute it had been eagerly chasing an escaping prisoner. The next second it had forgotten all about its job and had gone chasing off on some mad quest of its own.

"What the hell happened to that thing?" Martin wondered.

FAR in the distance, a thin rattle gave him a clue to the strange behavior of the robot. Automatic rifle fire! Somewhere outside somebody was shooting an automatic rifle.

"Damn those damned marines of mine!" Martin groaned. "When we didn't come back, they started looking

for us. They ran into a robot and some fool let go with a gun. They've roused the whole place. Carter will never get back to the boat now."

The robot had heard the guns going. It had been designed as a keeper of the peace. The sound of guns meant the peace was being broken. Automatically it would move toward the sound of the guns, to restore peace.

Martin swore furiously. He had ordered his men to stay in hiding and they had disobeyed him. The fact that they had been trying to save his neck somewhat tempered his anger. They would pay for their disobedience with their lives. He hated the thought of those men being tramped beneath the iron feet of the robots. But what was of more significance, in the long view of the war, was that in all probability headquarters would never receive the all-important information that this island would make a first-class air base. Dead men could not carry reports. The Japs would have time to fortify and develop the island.

Martin crossed the machine shop following the robot. He was hoping to be able to evade detection and return to the patrol boat. Somebody had to get through to headquarters.

As he passed out of the machine shop the sound of angry voices attracted his attention. They were coming from a small room that opened off the tunnel that led to the surface. He had to pass the door of this room.

"I order you to recall your robots!"

Martin heard the hot words. He recognized the speaker. Captain Susuma.

"I will not recall them!" Tanya Hillson answered.

The Jap was ordering Tanya to call off her robots and she was refusing to obey him. Martin was struck with the sudden thought—why would Susuma want the robots pulled away from attacking an American patrol? It didn't make sense. The Jap would like nothing better than to watch those iron monstrosities smash a group of marines.

Martin tip-toed up to the door, looked in. Captain Susuma was standing with his back to the door. He was holding a Tommy-gun which the marine recognized as being the weapon he had surrendered. Tanya Hillson was facing the Jap. She was also facing the gun, which was centered on her heart.

"You rat!" she was saying. "You dirty, treacherous, sneaking rat! You have been lying to me all the time. You aren't a real pacifist. All you want is my robots, so you can use them against America."

"Very much mistaken," the Jap protested.

"I'm not mistaken!" Tanya Hillson hotly answered. "If you are a real pacifist, why did you bring a strong force of men with you? Why did you sneak in here, and try to distract my attention, while your men attacked? Answer me, Captain Susuma."

FROM outside there came again the rattle of small arms fire. Martin understood what was happening. The robots were not fighting his patrol. They were fighting Japs! Captain Susuma, in keeping with the traditions of his race, had brought a patrol with him to this island. While he went to Tanya Hillson with protestations of his peaceful intentions, his men had attacked. It was the same pattern the Japs had followed at Pearl Harbor, duplicated here on an infinitely smaller scale. At last Tanya Hillson had learned the truth.

"Calling names gains nothing now," Captain Susuma said. "Big fact is, your robots are fighting my men. Want fighting stopped."

"It won't be stopped!" the girl snapped. "Until the last Jap is dead! You do not seem to realize that my robots were made to fight, that they will wipe out your patrol to the last man."

"Eeeeeyow!" The fierce yell of a robot sounded from the night outside. It was followed by a burst of machine-gun fire. Abruptly the machine gun went into silence.

"Like that!" Tanya Hillson said.

"You do not seem to realize that I hold trump card," Captain Susuma said. His voice was deadly with menace. "If fighting not stopped—" He gestured with the gun.

The girl's face whitened. "You'll shoot, I suppose?" she said.

"Will shoot—*you!*" the Jap answered.

She looked at the gun and at the Jap. Muscles worked in her throat. "I suppose you think I will yield because I am a pacifist and do not believe in fighting. You are mistaken, Captain Susuma. Pacifism and cowardice do not mean the same thing. I am—or until now—I was a pacifist, but I do not think I have ever been a coward. My robots will get you and my death will precede yours by only a few hours. You dirty, yellow, sneaking rat, shoot and be damned to you!"

"You—you mean it?" the Jap faltered.

"I never meant anything more," the girl answered.

The Jap brought up the gun.

"Nor did I!" Martin said. He stepped into the room, brought the edge of his hand down just at the hairline on Captain Susuma's neck. Every ounce of the marine's strength was behind the blow. There was a sharp, spiteful *snap.*

Captain Susuma never did know what hit him. With a single blow, Martin had broken the Jap's neck.

Tanya Hillson stared at the marine as if she was seeing a ghost. Then, without a sound, she started to slump. Martin caught her as she fell.

"Hey, babe," he protested. "This is no time to faint."

CHAPTER V

The Fight in the Machine Shop

DISTANT in the hills, rifles were still cracking and an occasional grenade was exploding, when Martin and the girl reached the open. The sky was graying with the lights of dawn. At any minute the sun would erupt over the edge of the world.

"Are you sure your robots will be able to take care of the Japs?" Martin questioned.

"I'm certain of it," Tanya answered. "Their armor is beryl steel. A rifle bullet won't even dent it."

"What about grenades?"

"A grenade might knock one of them off his feet but it wouldn't stop him. Those robots have been carefully designed to overcome just such resistance as this. They'll whip the Japs all right."

"Um," Martin said thoughtfully. "Where did those Nips come from?"

"I don't know," the girl answered. "Possibly off a submarine or a destroyer. I didn't know there was a Jap on the island until Captain Susuma put in his appearance."

"You didn't?" Martin asked, surprise in his voice.

"No," she answered. "Why do you ask?"

"No reason," he said quickly. Was she lying, he wondered. There certainly had been Japs on the island. He had found too many dead ones to doubt they had been here for several days at least.

In the distance the shrill screams of the robots sounded. The rifle fire was weakening.

"Lieutenant Martin," Tanya said tremulously.

"Yes."

"I'm sorry I believed Captain Susuma instead of you. I—I suspected he was lying but you—you irritated me. And—" The words came with a rush. "I want America to have my robots. I want America to use them, as my father intended them to be used, as a police force, to keep peace over the whole earth."

Her voice was tremulous with excitement and Martin quite clearly understood how hard it was for her to say what she had just said. Not only was she giving away her prize possession but she was admitting she had been in the wrong. For proud, self-sufficient Tanya Hillson, this was quite an admission.

"I can see my father's dream coming true," she breathlessly went on. "All over the world I can see his robots standing guard over the peace. I can see civilization and science steadily advancing, great discoveries being made, disease conquered, hunger eliminated. With war gone forever, I can see the whole world made into one immense garden—"

IT WAS a breath-taking picture she was painting. Martin saw the dream that had inspired her and her father before her. Prophets for generations past had glimpsed this same vision.

"When the war drums throb no longer
and the battle flags are furled.
In the parliament of man, the federation
of the world."

It was a good dream. Somehow, in some time, it would come true.

"Thank you," Martin said. "I am quite sure my country will appreciate your gift."

"You do not seem very pleased," she said, observing him closely.

"I am pleased," he insisted.

"You don't show it."

"Well—" he hesitated.

"Well, what?" she snapped. Again she was Tanya Hillson, defying the world. She stamped her foot. "What are you hesitating about, Lieutenant Martin? Don't you want my robots?"

"I was thinking," he said slowly, "that before we dream of peace over the whole world, we had better wait until this battle is finished."

He gestured toward the low hills where the sounds of conflict were still audible.

"Oh, that!" she said. "You needn't worry about that. It will be over in less than an hour."

"What if the Japs brought along a couple of anti-tank rifles?" he questioned. "Would your robots be able to overcome them?"

She did not know what anti-tank rifles were and he had to explain. A doubtful look appeared on her face. "I don't know about that," she answered slowly. "Anyhow they didn't bring those big guns you are talking about. So it doesn't matter. You will see my robots win out."

She sounded very certain. Martin reserved his opinion. The Japs, he knew from experience, were hard fighters. A single sub-machine gun was firing in the hills. Abruptly the rattle of shots went into silence. Almost immediately there followed the wild triumphant yell of a robot. Other robot voices joined in the shrill scream until the hills rang with the fierce exultation.

"They've won!" Tanya exulted. "Those are their victory cries. They've cleaned out the Japs. Didn't I tell you

they would do it?"

Some of the relief in her voice was communicated to the marine. The Japs were finished! When Nippo headquarters learned that this patrol had not returned, they might send another to investigate—too late! Carter had certainly escaped, picked up the American patrol, and by now the powerful patrol boat was frothing the sea on its way back to headquarters. When Sergeant Carter made his report the landing force would waste no time getting under way. Pending the arrival of the American forces, Martin knew that he was marooned here. He looked at Tanya. Somehow the idea of being marooned on this island was rather appealing.

Still screaming triumphantly, the robots appeared on the top of the hills. They came down the path toward the slit that led to the underground machine shop. They swaggered as they came. Eight was in the lead.

Like knights of old returning from battle, they were coming back to their mistress. And like the knights, they had not come out of this fight undamaged. One walked with a definite limp, the arm of a second hung stiffly, a third had lost an eye, and all of them showed marks of being struck by slugs. They were wounded. But they had won. That was the important thing. They were swaggering home from victorious battle.

"Let's go meet them," Tanya urged, tugging at Martin's arm.

"Well done, Eight!" she called out.

THE robot stopped. His emotionless eyes turned toward his mistress, then turned toward the marine. He did not answer.

"I'm so proud of you," Tanya exulted. She was almost beside herself with elation. The other robots, like a ragged army in which the discipline was poor, were crowding up behind Eight.

Eight did not look at her. His eyes were glued on Martin. He took one step forward. A giant, metallic hand reached out.

"Want fight?" Eight said. He shoved the marine in the chest. Martin turned head over heels. He not only had not been expecting the blow but it had been delivered with so much force that it almost knocked the wind out of him.

There was a moment of hot silence while the marine struggled to his feet. "Hey!" he gulped.

Eight started toward him. "Fight!" he said. The metallic tones of his voice rang with triumph. Behind him the other robots moved forward like savage jungle dogs closing in for the kill.

"Stop it!"

Like twin daggers of sound, Tanya Hillson flung the two words at the robot. Eight stopped. Slowly he turned and looked at her. The other robots were silent.

"Eight, what do you mean by that?" the girl demanded. "Why did you shove Lieutenant Martin?"

"Fight!" the robot said. "Want start fight so can stop it!"

"You want to start a fight so you can stop it?" the girl faltered. Her voice had sunk to a whisper.

"Our job stop fights," Eight explained. "Like job. Like to stop fights. If can't find fight to stop, have to start one. You," he looked eagerly at the girl, "you want fight?"

If it had not been so terrible, it would have been amusing. Like a bully of the school yard, Eight was going around looking for a fight. His job, his whole purpose in being, the purpose of the design that had been built into his brain, was to be a keeper of the peace. If a fight started, he was to stop it. He liked his job. He liked it so well that he was looking for a fight, looking

for someone to oppose or resist him, so he could stamp out that resistance.

Tanya Hillson stared at the metal monster as if she did not believe her eyes. Slowly Eight moved toward her. The other robots had turned. Like their leader they were looking at the girl. About the whole group there was an air of suppressed eagerness.

"Don't you come any closer to me!" Tanya Hillson screamed. She had helped make this man of metal. She knew every intricate cogwheel, every cunning motor, every copper nerve strand, in his metal body. She thought she knew every convolution in his metal brain.

"Stay away from me!" she screamed.

Eight kept moving toward her. She was resisting him. She was telling him to stay away. In his dim brain there was only one answer to resistance—smash it!

Martin saw what was happening. In the back of his mind he remembered how, when Eight had first approached him, the robot had begged him to shoot. Even then Eight had been looking for a fight! At the time Martin had not grasped the true meaning of the robot's action. Now he knew. He whirled himself at Eight.

In a fight, he did not have a chance against those steel arms. He had only one hope. He grabbed the robot's right leg, jerked and shoved with all his might. The robot tried to turn, he tried to fight back—too late. He was caught off balance.

Martin pulled one of the robot's legs from under him. The metal man fell with a thundering crash. Instantly he was struggling to get on his feet.

"Yoooooow!" the shrill battle cries of the robots began to sound. All of them were starting toward the marine. Here, obviously, was what they were looking for—a fight. It was their job to stop fights.

"Run!" Martin yelled at the girl.

The robots thundering after them, they fled down the tunnel into the machine shop, just in time to shove the heavy door shut behind them.

"I SIMPLY can't understand it," Tanya Hillson whispered. "It's impossible for them to attack us. It can't happen."

"It can't, huh?" the marine grunted. "Lady, you don't know your robots." He told her about the dead Japs he had found. "Didn't you know about that?" he ended.

"I didn't—didn't know a thing," she answered. "They did that behind my back. I didn't know they had been killing Japanese."

"They would have killed Carter and me if we hadn't been lucky enough not to resist them," Martin said. "Eight practically begged us to start shooting. I didn't know what the hell he was or what he wanted, but I figured if he wanted us to shoot, that was the one thing I wasn't going to do—"

Whang!

A thunderous b l o w was struck against the door. The heavy timbers shivered under the impact but did not give way.

Martin looked at the girl. "Is there any way of controlling those metal horrors?" he asked.

"I—I'm afraid not," Tanya Hillson answered. "They—they were given the ability to think and act for themselves. There is a chance, if I went out and talked to them, they might listen. They know me. Open the door. I'll go out—"

"You will not!" Martin said.

"They're my robots," the girl blazed. "I got you into this. If they break down the door, I—I think they'll kill us. It's my duty to stop them, if I can."

"Nuts!" Martin said. "If you go out out there, they'll tear you to pieces. Isn't there any weapon in here that we can use against them?"

They were in a machine shop. Logically there should be weapons of some kind in such a place.

Slowly Tanya Hillson shook her head. "There isn't a gun on the whole island. There isn't a thing in here that would make a better weapon than a metal bar."

Whang! Again the door was struck.

"We've got to hide," Martin said. "If we can hide for three or four days, a landing force will be here. They'll have tank guns that will knock these robots from hell to breakfast. Where can we hide?"

"There isn't any place," Tanya Hillson said desperately. "The robots know the machine shop and the mine tunnels better than I do. Anywhere we go, they will find us."

Crash! A hole appeared in the door. Another two or three blows and it would go down. As Martin and the girl ran through the machine shop, he could hear the shrill screams of the robots outside. The metal monsters were eager for another fight. Soon they would be inside.

"Where is the main switch that controls the lights in here?" he demanded.

"What difference does that make?"

"If we turn out the lights, they can't find us so easily."

She showed him the switch. He grabbed a metal bar, opened the switch, smashed at it so that it could not be easily closed again.

With a crash the door went down. Heavy feet thudded in the darkness as the robots raced into the machine shop.

Martin pulled the girl down behind the bulk of a grinding machine. "Wait here," he whispered tersely. "I've got an idea."

A sudden thought had popped into his mind. There was a chance, one in a thousand, for them to escape. It was a wild idea. He had only the dimmest hope that it would work, but if it didn't work, he knew with grim certainty what would happen here in the darkness as the robots nosed them out.

EIGHT in the lead, the robots were coming down the main aisle of the machine shop. A beam of light from the broken door provided the only illumination. Because of the darkness the robots were moving slowly. Their huge bulks were dimly visible. They looked like great hunting dogs snuffling in the darkness for their prey. And, again like dogs, they were whining to be in at the kill.

Hiding in the shadow of a machine, Martin let the first robot pass him. In his hands he clutched the iron bar he had used to smash the light switch. The second robot loomed up in the darkness. Martin let the monster pass, then stepped out into the aisle and swung the bar with all his strength against the robot's back.

Against the steel armor of the monster, the blow was a pink prick. It did no damage at all. Martin was not expecting it to do any damage. He was hoping for something else. He ducked back to the shadow of the machine and held his breath.

The robot he had struck turned quickly, struck out with its great metal hands. All it knew was that it had been struck. It hit back. In the darkness it could not clearly see where it was striking. It hit the third robot in the line.

"Fight!" the third robot grunted.

With a thunderous crash the two closed together. In the metal mind of each of them had been firmly implanted the conviction that he was a keeper of

the peace, that he was to stamp out all resistance to him. Tanya Hillson and her father, dreamy-eyed inventors, had never thought of implanting in each metallic mind the knowledge that never under any circumstances was it to fight another robot. The idea that robots might fight each other had never occurred to them. It had occurred to Martin. In was his hope of staying alive.

Crouched beside the machine, he saw the two robots tangle with each other. Instantly the whole machine above was alive with savage cries.

"Fight!

"Fight!"

There was exultation in the metallic voices.

Eight turned to see what was happening behind him. In the darkness he could not clearly tell whether two robots were fighting or whether one robot had been attacked by the humans they were seeking. However, Eight could distinguish one fact clearly: a fight was in progress. It was his job to stop fights. He loved his job.

"Stop fight!" he thundered, leaping toward the two contestants.

Out of the darkness, what he thought was an arm reached and struck him. He did not see Martin throw the metal bar. He only knew he had been struck. Someone was resisting him in his efforts to keep the peace. That was all he wanted to know. Headfirst he jumped into the conflict. At the top of his voice, he yelled to the other robots. "Stop fight."

He was the leader. The other robots tried to obey him. In less than a minute the machine shop was a thunderstorm of furious sound.

Martin and Tanya Hillson slipped furtively through the battered door.

"W—what did you do?" the girl faltered.

"Started them fighting with each other," the marine grinned. "All they needed was a start. Listen to that, will you?"

A CONTINUOUS roar was coming from the machine shop, the crash of metal fists striking at metal heads, the clang of armor beating on armor, the shrill screams of the fighting monsters. In the dark cavern a furious battle was in progress. It became so violent that the very ground seemed to shake. Then, a little by a little, it began to subside. It went into silence. Out of the cavern a single robot came crawling.

It was Eight. He was battered almost beyond recognition. His head was caved in, one arm was completely gone, the other arm was only a stub, one leg had been jerked from its socket and trailed behind him. He saw the two humans and crawled slowly up to them. The eyes were dim but Martin could have sworn there was a gleam of happiness in them.

Eight raised himself on the stub of his remaining arm. He looked at Tanya Hillson.

"Stopped fight!" he said triumphantly, and fell over dead.

"DON'T feel bad, Tanya," Martin comforted the girl. "Peace is a beautiful dream but your robots would never have made it possible. If you had built a million robots and tried to use them to force the human race to keep the peace, all you would have succeeded in doing would have been to start the damnedest war that was ever fought. You can't force anybody, even your robots, to be peaceful. Hey, what's that?"

In the little valley below them he caught a glimpse of three brown-clad

figures running toward them. "Japs! No, they're not Japs. I recognize them now." Hard lines appeared on his face.

The three fighters came up the slope, resolved themselves into three marines, Sergeant Carter leading. For once in his life, Carter remembered to salute.

"What are you doing here?" Martin said coldly.

"I brought a couple of the boys back to see if we couldn't save your neck," the sergeant panted.

"You disobeyed orders," Martin said. "I told you to pick up the patrol, return to the boat, and burn the wind back to headquarters."

"Yes, sir."

"Then why didn't you do it?" The purpose of the patrol was to gather information and to return to headquarters as soon as possible. By delaying that return, Carter had endangered the success of the mission. The lieutenant was hot about it.

"Oh, that," Carter said carelessly. "The boat left an hour ago. I brought a couple of the boys back with me to look for you because, sir," his eyes went from the officer to the girl, "because sir, we figured you might need help."

"You needn't look at me," Tanya Hillson said. "Don't be harsh with them, Lieutenant. After all, they will make excellent chaperons."

"What?" Martin gulped.

Probably for the first time in her life, Tanya Hillson blushed. "Chaperons," she repeated firmly. "Don't you think we'll need chaperons?"

Martin flushed to the roots of his hair. He was aware that Carter was looking at him. There was a knowing grin on the sergeant's face. He had an excellent idea what kind of chaperons these three marines would make.

"Of course they will," he said firmly. "Isn't that right, Sergeant?"

"Yes, sir," Carter said promptly. The grin on his face widened. "We'll chaperon the hell out of this island. Except," he thoughtfully ended, "at night."

"That's fine," Tanya Hillson said brashly. "At night no one needs a chaperon, do we, Lieutenant?"

Martin was a marine, and whether in love or war, the marines let no one get ahead of them. "I should say not," he said firmly. "Never!"

THE END

★ ORIGIN OF THE BARBER POLE ★

HAVE you ever thought about the barber pole seen so commonly? How did it originate? Why are there red and white stripes? Here are some of the answers.

The barber pole with spiral stripes is a relic of the days when barbers were also surgeons. When the London barbers were incorporated in 1461, they were the only persons practicing surgery in the city. During the reign of Henry VIII, Parliament passed a law providing that barbers should confine themselves to minor operations, such as blood-letting and pulling teeth, while surgeons were prohibited from "barbery or shaving." Not until 1745—only thirty years before the outbreak of the American Revolution—were the barbers and surgeons of London separated into distinct corporations. In France, Germany, and other European countries, the practice of surgery by barbers was not completely abolished until much later.

The symbol of these old barber-surgeons was a spirally striped pole, from which was suspended a brass basin with a semi-circular opening in the rim. The fillet around the pole indicated the bandage or ribbon twisted around the arm in blood-letting, and the basin represented the vessel used to receive the blood.

In general, barbers have retained in modified form this ancient symbol of their profession. In the United States, the brass basin is usually omitted from the barber pole, but it is still common in England.

So, mister, if your barber tries to slip back into his ancient superior role of barber-surgeon by slashing your wrists with his razor . . . run for your life. He's no longer qualified to administer the gentle art of blood-letting. The poor guy now assumes the obviously inferior role of only hair-cutter, shaver, shampooer—and authoritative political analyst, of course. Watch for his barber pole, and remember its significance, and . . . be careful!

PRIESTESS of the FLOATING SKULL

By EDWIN BENSON

The fate of Russia and of the world shone from the empty eyes of a skull whose "brain" was a telepathic radio

CONCLUDING INSTALMENT

See page 162 for synopsis of first instalment.

CHAPTER VII

Accusation Without Documentation

"YOU understand, of course," said Von Holder suavely, "we had to hold you until the American Consul assured us you were all right. After all, you had no passport, since it was destroyed in the fire that wrecked your plane—you said that yourself."

Vorosh grimaced.

"I supposed you're right, but it wasn't exactly the reception I expected in Berlin. I've been rotting here for nearly two weeks."

Von Holder smiled.

"You might have rotted here longer if the Consul had not gone to great trouble to verify your story."

"Gone to great trouble to verify it . . . ?"

Vorosh swallowed. Into his eyes crept a puzzled look, which he hastily concealed.

"It seems that I will have to go over and thank the gentleman," he observed.

"It would seem so," agreed Von Holder. "If you wish to go now, I will have one of my men drive you over."

"Good," said Vorosh cordially. "It will be a great favor. I've never been in Berlin, and I'm sure I'd be lost in ten minutes by myself."

Von Holder gave orders, and a short time later Vorosh found himself in a staff car, being driven to the American Consulate.

He was ushered in immediately, and a grey-haired man with serious eyes rose to greet him.

"Mr. Vorosh? I'm in charge here. The name's Briggs.

Vanja, half-conscious, was placed under the influence of the machine

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I'm very glad to see you."

"I imagine you are," said Vorosh pointedly. "And I'm ten times as glad to see you!"

He cast a glance around the room.

"Are we alone?" he asked.

Briggs lifted his eyebrows.

"Alone? Why certainly. What do you expect, dictaphones?"

Vorosh's lips tightened grimly.

"In Berlin, I expect anything! But sit down, Mr. Briggs. What I am about to tell you may be a shock."

Briggs sat down, picked up a cigar, and offered one to Vorosh. He refused.

"Perhaps not so much of a shock as you expect. I'm rather used to shocks, concerning you."

Vorosh frowned.

"What does that mean?"

"Go on with your shock, Vorosh."

Vorosh considered a moment.

"Perhaps I'd better say a few other things that are on my mind first. Von Holder told me you had checked my story with the United States, and had given me a clean bill of health. You know as well as I do that that isn't true. If you really checked, you know I had no passport, that I'm not an airplane salesman for the P-40, and that I disappeared over Buffalo while testing one of Uncle Sam's experimental P-40 ships with some secret instruments on her."

"Go on," said Briggs quietly.

"You also know how I claim to have gotten to Russia."

"Yes."

"Do you believe it?"

Briggs looked at him.

"You were there. You could not have gotten there in any other way."

Synopsis of Part One

PETE VOROSH, testing a U. S. P-40 over Buffalo, finds himself caught in a weird stratospheric storm which carries him up far beyond the normal ceiling of the plane he is testing. He fears that he will freeze to death, and when he sees a huge white human skull floating in the sky above him, he thinks he is seeing an illusion created out a mind faced with great danger. But then he hears a voice—not the voice of JOE HAMILTON, his assistant at the radio on the ground—but the voice of a woman, *speaking in Russian.*

Vorosh is a naturalized American citizen, having been born in Moscow. His name is a shortened version of Peter Vladimir Voroshilov. He is amazed to hear the voice, and thinking it comes from his radio, turns it off. But the voice persists, asking his name in an urgent manner.

Vorosh tries to answer, but is being rapidly overcome by the extreme cold. The voice seems to be aware of his predicament, and begins compellingly to urge him to sleep, to be warm, to turn off his motor. *Sleep—sleep—sleep,* says the voice. Vorosh sleeps.

An unguessed time later the voice awakens him, urgently warning that he is falling toward earth. To his amazement, he finds himself *over Moscow.* The plane is hurtling toward the ground. Gaining control of the craft, he is attacked by a Nazi Messerschmitt, and in the ensuing battle, fought under the handicap of having no guns on his own plane, Vorosh sends the Nazi to his doom by cutting him to pieces with his propeller.

Out of gas, a hundred miles from Moscow, he crashes in a haystack and is capturned by a Russian lieutenant who takes him to GENERAL VIDKOV. This officer listens to his incredible story, believes it because he saw Vorosh down the Nazi, and claims that he will take Vorosh to the voice.

In a little office off Red Square, Vorosh meets VANJA NILCHENKO and she is carrying the skull which he had seen in his stratosphere vision! After questioning, in which Vanja is convinced of the truth of his story, and of his regard for Russia and hatred of the Nazis, Vorosh enlists his services in the mysterious work Vanja, and her companion, JOHN ZYMANSKI, a Polish radio mechanic, are doing.

The skull contains a cleverly concealed telepathic radio, the only one in existence, operating on a fixed wavelength—the result of a pure accident of construction. This radio can receive the thoughts of persons attuned to it. Vanja Nilchenko is one of

Vorosh's jaw dropped.

"Then, if you believe that, maybe you'll believe all the rest I have to tell you. I'd better begin at the beginning and tell you the whole set-up."

VOROSH launched into an account of his experiences since landing in Russia and concluded with:

"Briggs! The Japs intend to attack Pearl Harbor, Midway, Wake and other bases within two weeks! And the Nazis are in on it. They know all about it. The fact that we got the information from the mind of Rudolph Hess, a prisoner in England, proves it. This has been planned a long time."

Briggs stared at him quietly.

"So Miss Nilchenko tells us."

Vorosh's jaw dropped.

"You mean . . . ?"

"Yes. She came to us immediately and told us the same story."

"Story!" Vorosh gasped. "You mean you don't believe it. You mean you aren't going to do anything about it?"

"Certainly not!" Briggs snapped suddenly, leaned forward across his desk. "Vorosh, we're preparing a passport for you. And my advice is for you to return to the states at once and go back to your job."

Vorosh leaped to his feet.

"What!"

Briggs stood too.

"Frankly, Mr. Vorosh, this is preposterous. I can only conclude that you've been reading too many sensational novels in America. You have been taken in, at least by your imagination, and quite possibly by this Nilchenko woman. Reason will tell you that this mind-reading by radio telepa-

---

these, and Rudolph Hess, number three Nazi, now a prisoner in England, is the other.

When Vanja heard Vorosh, from his plane, she was desirous of learning who and where he was, with the hope of using him as an aid in her work, which she explains now is espionage. She has certain plans involving Rudolph Hess. If she can reach Berlin, perhaps she can use the knowledge she can steal from his mind to circumvent many Nazi plans.

Thus, she hypnotized Vorosh, saved him from freezing to death. Hypnotized persons can withstand much more than normal danger.

The plan now is to "escape" to Warsaw, where Vanja and John originally were, and from which they fled when Poland was invaded, partly because Vanja learned of the invasion from Hess and wished to warn her countrymen. Vanja is Russian.

Vorosh and Vanja fly the P-40 to Poland, set it afire and bail out. Vorosh loses Vanja, and is captured by the Nazis. MAJOR ETTLING takes him to Warsaw, where Vorosh convinces the gauleiter, VON HOLDER, that he is an American airplane salesman, escaped from Russia with his American plane because he does not wish to deal with the Russians. Vorosh fears Vanja is dead when the Nazi gauleiter asks him to describe her clothing, etc. But it developed that she had also been captured, and they had been kept apart, to see if their stories checked.

Vanja has successfully put over her subterfuge of desiring to bring her mind-reading act to the German stage, where "the best opportunity for the future" lies. She is to perform for the German soldiers at a Warsaw theater the coming Saturday night.

She performs amazing feats of mind-reading, and impresses Von Holder.

But midway through her act, she grows pale, rushes from the stage. She has just heard Hess mentally telling of *the invasion of American possessions*. The Japs plan to attack Pearl Harbor in September, one month hence!

Now, Vorosh must escape. In German territory he would be a prisoner of war. Vanja tells him she will send through the underground for a plane . . .

Von Holder enters, tells them that all three are leaving for Berlin this very night —where Vanja Nilchenko will become "actress-for-the-Reich" and will give her first performance before Hitler himself!

Now go on with the story:

thy is impossible. The things that have happened to you, incredible in themselves I will admit, have played tricks on you. You are believing anything. Has it not occurred to you that Russia might have some reason to embroil America in a war with Japan? In fact, *every* reason to occupy a potential and dangerous enemy with a war on the other side to prevent an attack on her eastern border?"

"You mean . . . ?"

"I mean, by your own admission, this Vanja Nilchenko is a Russian spy. She is also a Communist. We would be fools not to recognize the facts."

"Facts!" Vorosh was pale. *"I'm* telling you facts! You say that telepathy thing doesn't work. Dammit, man it worked on me, *five thousand miles away!"*

"YOU were caught up in a strange storm which meteorologists confirm did occur. You were reported lost in that storm. You nearly died, experienced strange hallucinations, saw human skulls in the sky, heard weird voices. Obviously, at the tremendous heights to which you were thrown by the storm, you underwent perhaps the strangest, most disturbing experience that has ever occurred to an aviator. It is natural that you seek to find a real explanation for what happened to you. You told the Russians what had happened, and a clever espionage agent recognized how your credibility might be capitalized upon. By means of mental suggestion, this was heightened. And now, you come to me with an incredible and impossible story of a threatened attack on us by Japan."

"It's *true!"*

Briggs ignored him.

"For your information, Japan's peace ambassadors, Kurusu and Nomara, are even now drawing up assurances of amicable relations between the nations, in Washington. Further, America's bases are impregnable, and any attack across that tremendous distance, by either naval or air forces would be doomed to failure. Those water barriers are our best protection. America is alert, my friend, be sure of that."

"Why did you bother to get me out of this mess?" asked Vorosh in exasperation. "Why believe anything?"

"Perhaps I don't—or rather, perhaps *I* do, but others might not. I, myself, cannot conceive of any other way for you to have gotten there—and besides, I checked on the P-40. It was undeniably the same ship. But do you think I could have taken the risk of the situation that would have developed if I had admitted to the German government that you were a fugitive from the United States, that you were in Russia without a passport, and that you were consorting with Russian spies . . . "

Vorosh paled

"Spies!" he said hoarsely. "Do the Nazis *know* Miss Nilchenko is a spy?"

"Certainly not. In covering you, our actions provided a perfect cover for her. And after all, if we do not allow her actions to affect the American position in the war, why should we object to a Russian agent having a chance to act against the Nazis? It is perfectly obvious as to which nation we would like to see win on the eastern front."

"I see," said Vorosh. "And I'm beginning to see something else. You probably won't admit it, but you are bluffing when you tell me to return to my job in Buffalo. If I ever got to Buffalo! The minute I stepped out of the Reich, the FBI would have me. And innocent or not, I'd be held. While I am here, you dare not arrest me, or even cause the Nazis to deport me—because that would be an admission

that I was *not* what you have already said I am."

"THAT was not a wise thing to say Mr. Vorosh," said Briggs. "You are making one mistake. Under passport laws, you will be automatically shipped back to America by Germany when your visiting time is up. You see, I am not as helpless as you think."

Vorosh smiled tightly.

"Mr. Briggs, I want to say one thing. I am an American citizen. I will fight for America to the death. Circumstance has thrown me into a strange situation. It seems that now, when war comes—and it will come in two weeks! —I will be unable to fight as an American. But I was born in Russia. Russia fights our common enemy. I'll fight with Russia—as a Russian — if I must!"

"You mean . . .?"

"I'll volunteer as a member of the Russian air force."

Briggs stared, then he stuck out his hand.

"Vorosh, I believe you! And you've hit on the only answer. As man to man, I urge you to do exactly that."

Vorosh took the extended hand with an abashed grin on his face.

"You *are* a Yank!" he exclaimed. "For a time I was beginning to think you were a hard-headed Britisher. Well, maybe I won't have to became a Russian airman, though, in two weeks—*When Japan attacks Pearl Harbor!* For crying out loud, man, can't you at least warn them of that?"

"A Consul must document his statements," said Briggs. "Have I any documents?

"However I think your worries are unfounded. No attack on us, even if it does come, will catch us unwary."

"I wonder," said Vorosh. "I wonder . . ."

CHAPTER VIII

A Message from Hess

OUTSIDE the American Consulate, Vorosh stood indecisively. Where to now? Obviously he must find Vanja. But where?

"Twenty-nine Koenigstrasse."

Vorosh leaped as though he had been stung.

"Vanja!" he gasped.

Vanja's voice was not repeated in his mind, and even though Vorosh shot out repeated questions, the silence remained.

Puzzled, Vorosh walked swiftly toward the corner, rounded it, saw a cab parked about the middle of the block. He ran toward it, leaped in.

"Twenty-nine Koenigstrasse," he said to the driver.

"Was?" asked the cab driver, puzzled.

"Damn," muttered Vorosh. He tried again.

"Nine and swansig Koenigstrasse."

The cab driver grinned, nodded, sent the cab into motion.

"Sind sie Amerikaner?" [1] he asked.

Vorosh didn't answer.

Ten minutes later the cab came to a halt before the address. Vorosh leaped out.

The cab driver leaned out of the window.

"Heh, fünfsig pfennig für die fahrt, Herr!" [2]

Automatically, Vorosh stuck his hand in his pocket, came up with a few American coins.

"Nuts!" he said. Then motioned toward the doorway of the house.

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[1] "Are you American?"—Ed.

[2] An American cabby would have said: "Hey! Sixty-five cents, Buddy!" Fifty pfennigs is about sixty-five cents in American money.—Ed.

"Come inside; you'll get your dough."

He ran up the steps, with the cabby in close pursuit. The door opened almost immediately, and Vanja appeared.

"Come in, quick, she said.

"Pay the man," Vorosh motioned. "I haven't any German money."

Vanja tossed the cabby a bill. He retreated. Vanja closed the door.

"Follow me," she said, and almost ran into an inner room.

Vorosh followed, saw the skull atop a table. It was glowing.

"Hess?" asked Vorosh quickly.

"Yes! Listen . . ."

VOROSH sat down at the table, and Vanja sat also. She turned up the volume a bit, faintly Vorosh could hear a man's voice in his ears.

"It's German!" he burst out, disappointedly.*

Vanja lifted a hand. Vorosh was silent. As he listened to the eerie voice speaking in his mind in German, it grew fainter. Finally it died out altogether.

"What'd he say?"

"Plans have been changed. The Japs don't intend to attack America until later on. Just when isn't decided."

"Changed? But how could Hess know that?" Vorosh burst out. "He is a prisoner in England."

"I don't know *how* he knows, *I* only know he does know," said Vanja quietly. "He has a contact with Hitler, somehow, and a very good one. I'm sure now that Hess didn't go to England on any peace mission. He is there to mislead the British, and to act as a sort of super-spy. If he has contacts which enable him to get news from Berlin, then he has means of getting information and getting it back to Berlin!"

She snapped off the radio and sat regarding Vorosh.

"I heard all you told the Consul."

Vorosh nodded.

"I had to tell him. It was the only way to convince him of the Jap menace. And I failed. Now, when the attack does not come in September, I'll have not one chance in a million of convincing anybody. Not that it will matter. I can't go back to America."

"You intend to join the Russian air force, as you said?"

"Yes. Just as soon as my passport time is up, I'll leave for Lisbon and fly from there to Moscow—or by any route open to me."

Vanja nodded.

"Our work here should be finished by that time . . ."

"Why didn't you answer me, when I got your message to come here?"

"It was all I could send you. I am afraid even Hess got that message. Any more would have gotten him off the subject he was thinking so deeply about. I couldn't risk that. And I have no way at all of controlling my own broadcasted thoughts, except by turning the tele-radio off and on."

"You mean Hess actually must have gotten that 'twenty-nine Koenigstrasse' you broadcast to me?"

"Yes. And to him it must have seemed

* It has been a universal misapprehension that communication by means of thought waves would break down language barriers, because thoughts were believed to be basic, and not expressed in any particular language, so that an English-speaking person would understand the thoughts of a German, or even of a man from Mars, if he were to communicate in this manner. However, this is not true, since the great majority of people think in terms of the spoken word, and these vibrations would be reproduced, or picked up, by another mind in exactly the form in which they were first expressed. Certain thoughts, pictographically expressed, might be conveyed in understandable manner, but certainly nothing which is thought out in the mind of an abstract nature. Therefore, Vorosh is unable to understand the waves that come to him via the little telephatic radio which is attuned to the wave length peculiar to Vanja, Hess, and himself.—Ed.

like those unrelated phrases and thoughts that often leap into mind out of nowhere. You've experienced them—little things that pop up, and are dismissed almost without conscious effort on your part?* If I were to have continued, it would have intruded on his mind, and destroyed his train of thought. Then I would not have gotten the news that I did."

VOROSH regarded the skull reflectively.

"How is it that *all* your thoughts do not go out to my mind, and to Hess, and any others who may be attuned to that wavelength?"

"I discovered the broadcast powers of the radio quite by accident, during one of my performances. It is necessary to have actual physical contact with the skull, or to be within inches. So I simply place my head very close, and think deeply, with conscious effort and concentration. It seems that a field of influence surrounds the coils of the radio to a very slight radius; perhaps only six inches or so. As for touching it with my hand, it would seem that the scientific theory that thinking is a process which operates all the nerves of the body as well as the brain has some basis in fact."

Vorosh settled back in his chair.

"Well, what's on the schedule? I've been held for two weeks, during which time you never even tried to contact me. I'm spoiling for action now."

She looked at him reproachfully.

"How could I contact you? By teleradio was too risky. And Von Holder blocked every other attempt. That man is the world's most careful individual!"

"What are your plans?" persisted Vorosh.

Vanja looked serious.

"Tonight," she said, "I am going to hypnotize Hess."

Vorosh sat bolt erect.

"Hypnotize him!"

"Yes. Right on the stage of the theater, in the presence of *Der Fuehrer* himself."

"What!"

Vanja's eyes grew intent.

"Perhaps that contact Hess has with Hitler will turn out to be a contact Hitler never dreamed of!"

"Where do I fit in?" asked Vorosh.

Vanja smiled.

"You'll see—tonight. You will be my assistant. . . ."

CHAPTER IX

Performance for Hitler

REHEARSAL was over. Pete Vorosh knew now what he was to do on the stage. And a curious thrill swept over him. He stepped to the curtain and peered through. The great auditorium was empty. But even as he looked the first guest appeared, walked down and took a seat. Others followed rapidly. Guest was the proper word; each one of these persons would be attending this performance only by the grace of an invitation—more, a command—from the gestapo chief. And each one would be a rigidly examined Nazi, proven and loyal.

Herr Hitler took no chances when he appeared in public!

The theater was almost filled when a rustle of excitement ran through the audience, and from a side entrance a group of Elite guards brushed into the aisle. Following came Hitler, several

* Is this the way we get those random thoughts? Are they simply fragments of the thoughts of others which are picked up by our own brain when it is in a particularly engrossed or relaxed mood, and exactly receptive to outside influences? Perhaps many of the unexplained "inspirations" and "revealed secrets" which form the basis for rather superstitious beliefs and narrations can be attributed to mental telepathy.—Ed.

of his aides. Goebbels was there, and Himmler. And Vorosh noted with a start of surprise, Von Holder. A roaring "Heil!" swept through the theater.

Vorosh stiffened in hate, glared through the curtains at the scene.

He felt a light touch on his shoulder.

"Be careful," warned Vanja softly in his ear. "If anyone saw you glaring like that, you would be shipped out of Germany instantly."

Vorosh turned to her as Hitler seated himself in his box.

"There are some things you can't hide," he said bitterly.

She nodded.

"But you must hide them now. After a few preliminary acts we go on the stage. Then you will have to keep a straight face. And I will communicate with you directly via the telepathic radio whenever I want to tell you something. I can't contact Hitler's mind, but I am going to try to reach it through Hess."

Vorosh laid a hand on her arm.

"I think you are taking a desperate chance," he said. "You realize, of course, that you are going to go on that stage and apparently read Hitler's mind, or rather, convey to him a message only he should know?"

She smiled.

"Perhaps it will not be half as dangerous to me as to Hess, and many other good Germans, when Hitler learns what I *can* read!"

Vorosh found himself uncomfortably hot and nervous. He turned back to the curtain to watch the audience, and to stare once more at the man who had murdered more human beings than any other since Genghis Khan.

THE time for their act came almost too soon for Vorosh. He discovered suddenly that he was capable of stage fright as the great curtain swept aside, revealing the dimly-lighted scene that always characterized the opening of Vanja's mystic performance.

Out in the audience Vorosh was aware that there was but one face—that of Hitler. It was only by the greatest effort of will that he managed to keep his eyes from turning toward the box where the Nazi ruler sat.

Music came up, low and mysterious. Vorosh stood with the skull held out on his uplifted palms, motionless, impassive. Vanja appeared in the dull greenish light, undulating slowly toward him. Her body seemed clad only in mist, so filmy was the garment that she wore. The skin of her body gleamed softly through the dress like old ivory, green with age or mellowed by the application of exotic oils.

Vorosh was fascinated. Here was a Vanja he had never seen before. He realized with a thrill that he had no need to fear that she would not accomplish her dangerous purpose. She was all allure—all fascination—all mysticism. She affected the brain like a drug. She was almost the physical embodiment of hypnosis itself.

He felt the skull lift gently from his fingers and saw it apparently float through the air in response to her alluring beckoning. He knew that invisible wires were supporting it, but all the same he felt the hackles on his neck rise in eerie response.

The audience drew in its breath as a single individual. Vorosh stole a look at Hitler. The Fuehrer was staring, his slack mouth half-open in the same fascination that gripped all those around him.

"She'll do it!" breathed Vorosh to himself. "He'll be a sucker for it!"

Vanja now was facing the audience. Vorosh stood in the shadows, arms folded. All that he was to do was to

act as her stooge in the manipulations of the floating skull. She crouched down now, kneeling in seeming obeisance to the skull hovering before her. It was gleaming in the eerie light.

It floated down nearer to her. She rose on one knee, reached out supplicatingly toward the skull, palms extended. It descended slowly. At last it touched her fingertips.

SO DEFTLY that even Vorosh could scarcely determine her movements, she disengaged the skull from its wires and suspended it to her own fingers. Then she rose swayingly to her feet. The music grew in volume, its weird notes filling the theater with sound. Then, as Vanja finished her ritual, it died away. Silence fell over the spellbound audience like a cloak.

Under Vanja's deft touch, the lights inside the skull began to glow until they made it shine in her hands with a macabre effect that was truly startling. The light limned the curves of her body with alluring highlights; picked out the high color of her cheeks; deepened the violet depths of her eyes; shadowed mysteriously the hollow of her throat.

Softly her voice came, calling a name. Several times she repeated it. At the rear of the theater a soldier stood up. Vorosh listened and watched in admiration as Vanja went through her act, read his mind, answered his halting, embarrassed, and obviously frightened questions; frightened because the Fuehrer was present.

Suddenly Vanja lifted an imperious hand, stood rigid.

In Vorosh's mind her voice rang suddenly.

Peter! Come slowly toward me; kneel and take the skull from my hands. Then begin calling out, mentally, the name of Rudolf Hess. Do as I did to you that day in your plane high above Buffalo. Tell him to sleep, to relax, to free his mind of all thoughts. You will continue doing that, keeping your forehead close to the skull, touching it if possible, while I go on with Hitler. Repeat over and over the German words I taught you.

Vorosh, feeling a queer sinking sensation in the pit of his stomach, almost like the feeling that accompanied a steep dive in a P-40, moved slowly forward in response, knelt and took the skull from her. He held it before him, bent forward until his forehead touched it. Then he began concentrating mightily.

Rudolf Hess! Rudolf Hess! He called urgently with his mind. *Du bist schläfrig. Sehr schläfrig. Schlafe, Rudolf Hess. Ruh dich aus.**

Dimly Vorosh was aware that Vanja was speaking in German.

He continued his desperately directed thoughts.

Out in the audience there was a stir; then sharply, so that it startled him for a moment, made him forget what he was doing, came the voice of Adolf Hitler himself. He was shooting a harsh question at Vanja.

Vorosh thrust the voice from his mind, tried to dull his ears to the sounds around him. He repeated Hess' name over desperately, and urged sleep, deep sleep, on the distant mind he sought to reach.

Once he thought he heard a faint "Ja" in his mind. The mental voice of Hess! Or was it? Just someone in the theater? It was not repeated.

Vanja's hand touched his head, and he heard her voice in his mind, speaking in Russian this time.

Give me the skull.

He surrendered it to her, backed away, resumed his former position at

*English translation: "You are sleepy. Very sleepy. Go to sleep. Relax."—Ed.

the side of the stage. He saw now that the audience was in confusion, awed. Hitler stood erect in his box, eyes intent on Vanja. There was amazement, bafflement and a fantastically inspired look on his face. He seemed like a man who has seen a vision of his own coming greatness. He was flushed, his hands clenched and unclenched.

"Holy smoke!" muttered Vorosh to himself. "What did she tell him?"

VANJA seemed to be going through her customary ritual before leaving the stage, but in his mind Vanja's voice (as abruptly as that of Hitler had intruded on his mind before) began speaking in German. Several times he heard the name of Rudolf Hess. It was quite a long speech, and it was repeated urgently several times. Then her voice ceased.

Now the curtain swung closed and a burst of applause came from beyond. Several times the curtain opened and Vanja took bows. Then it remained closed; but not before Vorosh had seen Hitler triumphantly smack his doubled fist into his palm, then wheel and march past his companions, whose faces were serious. Von Holder and Goebbels were frowning. Vorosh wondered why.

Back in the dressing room Vorosh was impatient to hear what Vanja had broadcast to the distant Hess. But Vanja flung her arms around him and hugged him tight in glee.

"It worked!" she said enthusiastically. "It worked so wonderfully well!"

Vorosh planted a kiss on her lips, and she returned it almost automatically. Then she realized how natural the act had been and drew back blushing.

"Exactly what did work so wonderfully well?" asked Vorosh, quelling the curious thrill that tingled on his lips.

Vanja seated herself at her dressing table and began combing her hair.

"Well, while you were concentrating on putting Rudolf Hess to sleep with the German words I taught you, I was calling up a few of the things that we learned from Hess, subtly, of course, so that no one else in the audience, except perhaps Hitler's immediate staff would read the truth in them. I even hinted at the invasion of America's island possessions.

"Hitler was certainly surprised, because right in the middle of one of my revelations, he jumped up and challenged me.

"I told him then several things which I kept very close to the truth, and then told him that very soon he would receive an extremly important communication from a very good friend and compatriot of his who was not in Germany, but in an enemy country on a very important mission. I assured him that this communication would contain information that would have immense possibilities to mould his future destiny as the conqueror of the world.

"I told him that the information he would receive would give him a great tactical advantage, and that if the knowledge was used along the lines that the friend would suggest, a great victory in a land to the east would be assured."

Vorosh looked puzzled.

"I don't get it. How can you assure him of anything like that?"

"Because the information that Hitler will receive will come from the most unimpeachable source of all, from Rudolf Hess in England."

"So that's what you were telling Hess!"

"Yes. I discovered that your insistent mental voice had achieved the result we desired, and placed Hess in a hypnotic state he was absolutely

ignorant of. Actually a person cannot be hypnotized against his will, but when he does not realize he is being hypnotized, it is easy.

"I told Hess exactly the information I wanted him to convey to Hitler, convinced him that he received it from his usual authoritative sources, impressed on him how true it was, and how vital, and how urgent. Then I told him that he would not question his source, not doubt its authenticity."

VOROSH looked at her in admiration.

"So when he wakes, he will carry out those orders without question!"*

"Yes. And now I must convey the plan of action to General Vidkov. When Hitler acts on the Moscow front as he will when he gets the information from Hess, he will find that the Red Army can really fight!"

"But what was that information?" asked Vorosh desperately curious.

Vanja smiled at him.

"I cannot tell you that," she said. "And—" she hastened to add as she saw the gathering frown on his face "—not because I do not trust you. If I tell no one, there cannot be a slip-up—and there *must not* be a slip-up!"

Vorosh looked at her, then drew his brows into a puzzled frown.

"But how can you be *sure* that Hitler will act as you think he will? If the Red Army makes plans for a certain tactical maneuver, and it does not develop, they will be in a trap of their own choosing."

"Hitler will act as I want him to," Vanja assured him. "Hitler is a mystic, and he believes in such things as happened to him tonight.* When the message from Hess comes as I have predicted, he will be sure it is something marvelous and true that has come to him out of destiny's web itself."

Vorosh pictured his last glimpse of Hitler in his box, smashing his fist into his palm, and nodded agreement to this statement.

"Yes," he said. "I think he will. In fact, I think he's already decided to act. When the information does come, it will be the clincher in his mind. And—" Vorosh grinned suddenly. "—a couple of Nazis I know aren't going to like it a little bit! If I remember rightly, his generals resent his interference in their tactics . . . and anything so drastic as the plan you must have in mind, with its obvious danger to German arms, will stick in their craw. And if I have Hitler tagged right, that'll be the one factor that will make him do as you want!"

*The power of hypnotic suggestion is such that a person who is hypnotized can be given certain instructions while under the influence of hypnosis. When he comes out of it, he will carry out these instructions without question, and without reasoning why he is doing it. Even years later, exactly on schedule, he will perform the acts he has been ordered to perform—unless they are contrary to his moral code. For instance, an honest man cannot be forced to steal by hypnotic command; nor can a man who has no killer's instincts be caused to commit murder. In the case of Rudolf Hess, he would pass on information received via hypnotic suggestion, provided he was assured it was a legitimate piece of information. This is what Vanja Nilchenko has done.—Ed.

*It is a well-known fact that Hitler is a mystic. He specially believes in astrology, and it is said that he never makes a political or military move without first consulting the stars. He has a staff of seven or eight astrologers, and their readings actually guide the destiny of the Third Reich. It is also a fact that astrologers have predicted Hitler's death several times, and the readings have been agreed upon as basically correct by many leading astrologers. Yet, Hitler has not died. Astrologers explain this by saying "the stars incline but do not define." Thus, undoubtedly Hitler has himself obtained these predictions, and by exercising great care has avoided the implications of the stars and escaped the destiny toward which they tended to force him. Whatever the truth of the matter, Hitler is a confirmed mystic, and in his belief in the influence of the stars actually has given them a potent and real power over human events.—Ed.

CHAPTER X

The Battle of Russia

PETE VOROSH swung around as a hand dropped cordially on his shoulder in the tiny bar where he sat morosely sipping, ironically, a Russian champagne.

"Good afternoon, Mr. Vorosh," said the American consul, Briggs. "How is my 'miracle flier' today. Any new stratosphere flights?"

Vorosh grunted, took another swallow of his drink.

"First time I see you since we shook hands, and you stab me in the back," he said. "Right now I don't feel like being ribbed."

"Sorry, old man," said Briggs, sliding into the seat beside him. "No offense meant. But you do look sort of glum. What's on your mind? You still have several months before you have to join the Russian air force."

Vorosh swung about angrily.

"More needles! Can't you cut it out?"

"What's eating you?" said Briggs bluntly. "Maybe I can help you."

"Fact is," said Vorosh, "I'm getting just a bit bored. I wasn't cut out to be a stage dummy . . ."

"That's what was getting under my skin too," confessed Briggs. "That's why I looked you up. What's keeping you here? Why don't you hike for Russia and join up now?"

"A mastermind like you ought to be able to figure that out," said Vorosh significantly. "Obviously I am engaged in espionage; and Miss Nilchenko and I are slowly but surely undermining the Third Reich!"

"Now who's being sarcastic?" asked Briggs. "And to retaliate a bit, whatever happened to that Jap invasion you were screaming about?"

Vorosh glared at him.

"It'll come! It's just been delayed."

"Your information comes straight from Hess?" smiled Briggs.

Vorosh stared for a moment, then broke into a grin.

"Let's call it quits, Briggs. To be quite frank, I'd like to talk things over with you. I won't be impolite and disregard your question, though. Yes, my information does come from Hess. And if I don't miss my guess, Hitler has been getting some information from the same source. It's just *what* information he's getting that's got me buffaloed."

"You mean the girl hasn't told you?" asked Briggs innocently.

"Have a drink?" asked Vorosh.

"Sure," Briggs grinned. "And nice going. Well, Vorosh, what can I do that will serve to dispel the clouds from your brain?"

"WHAT'S going on—here and in Russia?" Vorosh quickly took advantage of the offer. "I am having a tough job following the news. I don't understand German, so these newspapers and the *Sondermeldung** over the radio don't mean a great deal to me."

**Sondermeldung*—a special German High Command communique. It is always preceded by an announcement that it is coming, repeated every five minutes. Then, before it comes, it is preceded by a five-minute radio silence. These *Sondermeldungen* were used only for great events, such as the capture of Eben Emaul, world's strongest fort, by parachute troops. They were a sort of Holy Writ of military officialdom. During September, October and November of 1941, when the Russian war stretched out, and there was a dearth of real conquests, and a need to reassure the German people who were becoming alarmed at the vastly increasing number of letters being returned from the front marked "fallen," and the number of shops being closed because of "personnel called up," these broadcasts become frequent, and wild claims of victory were made.—Ed.

Briggs looked doubtful.

"They don't mean a great deal to anybody," he observed. "Even to the German people! Since October tenth, the Russians have been licked a dozen times. In fact, since that date, a very strange confidence has evidenced itself, from Hitler on down, and they've been jumping the gun on announcing victories before they were won. I can't understand it myself."

"I can," said Vorosh, grinning queerly.

"Eh?"

"Go on," prodded Vorosh. "Let's have your opinion on it."

"Well, on the fighting front, the Germans have taken Vyasma and have stormed on past the Bryansk front. Which is damned near Moscow. If they can keep on . . .

"According to the *Sondermeldung*, Stalin's armies have been wiped out, have, according to Dr. Dietrich, "ceased to exist.' Strangely enough, those nonexistent armies have been creating horrible havoc, largely through what the Nazis please to call "bolshevik barbarism," such as lying down in front of Nazi tanks, then inserting dynamite in the treads, so that they blow up twenty feet further on; surrendering with dynamite in their pockets, then blowing their captors and themselves to hell.

"Latest reports indicate that Rostov is about to be taken by the Nazi armies . . ."

Vorosh interrupted.

"Is all this true?"

"Which?"

"About Nazi advances."

Briggs shrugged.

"I have no reason to disbelieve it. I don't believe the Russians are wiped out, but they are retreating. Nazi columns have taken Bryansk, and are reported on the verge of springing a great trap on the Russians who are wiped out but still fighting. Incongruous, isn't it? As for Rostov, there I think the Russians are taking a terrible licking. It looks to me as if Hitler will not have to wait for next spring to take the Caucasus, but can barge right on through."

Vorosh groaned.

"Maybe he *didn't* believe Hess!" he muttered.

"What's that?"

"Nothing," said Vorosh. "Just talking to myself."

A STREET urchin appeared behind them, thrusting out a paper speechlessly. Vorosh spotted the two-word headline in giant red letters and snatched a copy. He thrust a coin into the urchin's hand and he ran off.

ROSTOV EROBERT! Vorosh read.

"What's that mean?"

Briggs snatched the paper.

"It means 'Rostov taken.' The Germans have captured Rostov!"

"That's not so good, is it?" Vorosh asked worriedly.

"No. But strangely enough, it seems to vindicate Hitler."

"How do you mean?"

"Hitler's generals, von Leeb, von Bock, and von Rundstedt have been insisting that the time has come for a retreat to more secure winter lines. Hitler has been for smashing on and winning the victory at once. The generals have claimed this was impossible. Now, I don't know. The fall of Rostov may open the way to a winter offensive that can take the Caucasus."

Vorosh downed his drink with one gulp.

"Listen, Briggs," he said. "You'll have to pardon me. I've got to run off. There are some things . . ." His voice trailed off. He got to his feet, shook hands hastily, and left. ". . . Some

things I've got to have explained," he finished to himself as he walked out the door.

Reaching the door of the hotel where Vanja was staying, Vorosh almost bumped into a uniformed man coming out. It was von Holder, who greeted him stiffly, looked at him with a strange gleam in his eye, then strode on. It seemed that he was perturbed about something.

Vorosh stared after him a moment, then shrugged and entered the hotel.

He found Vanja in her room. He showed her the paper.

"Look, Vanja," he said. "Isn't it about time you told me what's going on? If you ask me, I think your plan is going all wrong."

Vanja looked at the paper, and amazingly, seemed pleased.

"Come," she said, seating herself on the sofa. "Sit down beside me and I'll tell you all about it. Nothing can stop events now, so it can do no harm to tell you what I've done.

"Shortly after that performance before Hitler," she began, "Rudolph Hess transmitted the information I gave to him under the hypnotic spell. Hitler has been acting upon it. Briefly, what I told Hess is this:

"Stalin, in his effort to save Moscow, has planned a flanking and encircling movement on the Nazi armies attacking along the Vyasma-Bryansk line. The plan is to push to the north, then circle, come down behind the German lines at Vyasma and cut off the Nazi armies rushing forward sure of success. Then, cut off from supply lines, they can be cut to pieces.

"Also, Stalin has taken, for this purpose, the bulk of the army behind Rostov, and shifted it to the Bryansk front, to stop the Nazis there, believing that the Germans do not plan to attack the Caucasus this winter.

"BUT all this is not true. Actually, General Vidkov has a plan of action which he has worked out with Stalin. The great action is to take place at Rostov, under the direction of General Semeon Timoshenko, one of the most brilliant of all Russian generals. The plan is to drive the Nazis back at Rostov, as far as Odessa, if possible. And the plan at Bryansk is to feint a frontal and northern thrust, to bear out the encirclement illusion, then attack from the south as the Nazis turn north to complete their own encircling maneuver. They will find themselves attacked from the rear."

"You mean that the Russians have strong armies at both Bryansk and behind Rostov, and that the Nazis, believing that the Caucasus armies have been shifted north and the defenses are almost nonexistent, will drive on past Rostov and be trapped?"

"That's it exactly."

"What if the Russian armies are not strong enough to turn the Nazis back on either front?" asked Vorosh bluntly.

"Then Russia will be lost," said Vanja simply. "Lost, insofar as further resistance this side of the Urals is concerned."

"It's a terrible gamble," said Vorosh. "The fate of Russia staked on a hypnotic suggestion to one man!"

"Perhaps not such a gamble," said Vanja. "I told you that it was too late now to change events. No matter what the Nazis do, it will be too late to change their plan. Hitler will discover in the next few weeks that Hess has lied to him. And when he does . . ."

Vorosh paled.

"Then he'll discover too, *that you have lied to him!*" he exclaimed.

"Yes," said Vanja. "He will. But when he does, perhaps we will have time to escape by air from Berlin. General Vidkov's secret service has ar-

ranged it for us. A plane—a German light bomber—will be ready at a certain point. You'll have to pilot it."

"If we get warning," said Vorosh bluntly. "If our work is done, why can't we leave now?"

"Don't you see?" said Vanja. "It isn't done. We can't leave, because that would make von Holder—and through him, Hitler—suspicious of the truth of what has been told him. Von Holder is already suspicious. He was just up here, and has ordered my performances to cease for the time. He gave no reason."

"It's sure as shooting he has one," Vorosh said anxiously. "And I'm going to keep my eye peeled. The minute German reverses become apparent, we're going to skidoo!"

DAYS passed. Days in which the famous Nazi Storm Troops revolted and were crushed, disbanded, and suppressed.

"I did most of it," admitted Vanja Nilchenko. "The tele-radio wavelength is very close to the mental wavelength of an editor of the *S. A. Mann*, the official publication of the Stormtroopers. It has been suppressed, supposedly for paper shortages, although less important papers are still being published."

"Yes," said Vorosh, "and I heard how certain storm-troopers were made to talk, give the names of seditious leaders. It all ties up with von Holder. He is said to have a strange mechanical lie detector which was invented by a Polish scientist and criminologist. The inventor is dead, but von Holder has the machine. I hate to think of what it would reveal if you were subjected to it! Once the Nazis knew all the things you—and I—were mixed up in, they'd make short work of us."

"I knew about all that when I took this job," said Vanja. "And so did you."

"Of course. But frankly, I see no reason why we should sacrifice ourselves by staying here. We can do only minor work now . . ."

"You are wrong. Hitler still trusts Hess. Hess still sends information to Hitler — information that is true. I have acted on much of it, and we have managed to circumvent a great many minor disasters to Russian arms. Until Hitler has his trust in Hess broken, and this great Allied leak is stopped, our work isn't finished. We must accomplish that. Then we can leave. If we die, we will not have died in vain."

"The waiting is hard," said Vorosh. "I want action."

"Why don't you go to Russia now? Join the air force, as you wish. I can finish alone."

"You too?" asked Vorosh half-angrily.

"What do you mean?" she asked puzzledly.

"Giving me the needles! You know very well that you can't finish alone. When the time comes to leave here, you must have a pilot."

Vanja leaned forward and kissed him.

"Forgive me, Peter," she said softly. "I know the waiting is hard, but it won't be long now. Timoshenko's armies are attacking now. Even as we talk, Hitler's armies are being driven from Rostov in a retreat they call 'necessary so that the rebellious and treacherous civilian population may be dealt with.' Dealt with by shelling them indiscriminately along with advancing troops!"

"I know that," said Vorosh. "I know too of how the Nazis have been stopped at Bryansk, and are even now retreating toward Vyasma. But, it's December already, and there's a lot of snow in

Russia. That may be the sole reason."

He looked thoughtful.

"Somehow, it doesn't seem to me that your plan has worked. Everything seems to be going against Russia. Even the government has been moved to Kuibishev!"

"Silly," Vanja chided. "That's part of the plan to instill overconfidence in the Nazis. There was no need to move the government. We wanted only to create the impression that we were convinced we had to give up Moscow, and the danger was so great we could not prevent its capture."

"I hope you're right," said Vorosh.

Vanja smiled.

"Just to keep you from being too bored, I'll let you listen in with me for awhile on the tele-radio. Maybe we can learn something from Hess, or even from someone else. Sometimes faint snatches come from other minds . . ."

SHE got the macabrely camouflaged radio out, put it on the table. They sat down, and she turned on the controls located in the eyes.

"I won't turn on the broadcaster, because all you'd hear would be my thoughts, and all I'd hear would be yours."

"Would that be bad?"

They spent the next hour chatting and listening for something to come over the tele-radio. Suddenly, in mid-sentence Vorosh stopped speaking and silence fell over them. In his brain a voice was speaking in German. It grew stronger, seemed vibrant with excitement, held a note of satisfaction and exultancy.

Vanja was sitting, wide-eyed. Horror crept over her face like a mask, setting it into immobile lines. It was as though she were hearing a death pronouncement.

"What is it?" Vorosh asked anxiously.

She shook her head, listened as Hess' voice droned on in both their brains.

Finally it died away to a whisper and she reached out and shut off the tele-radio. Her face was pale.

"This means . . . we've got to do something . . ." she choked out.

Vorosh gripped her arm.

"For crying out loud, tell me what you heard!"

"At approximately seven o'clock this morning, Hawaiian time, the Japs attacked Pearl Harbor! And it was so well-planned that Hess firmly believes the whole United States fleet stationed there was caught unprepared and destroyed! It's come, Peter. Your country is in the war now too!"

Vorosh was dazed by the stunning suddenness of the revelation. He had expected that sooner or later the Japs would attack. But not today. Not today, on a Sunday! It would be more than logical that Hess was right, and that the attack would be terrifically successful. Sunday . . . when Americans were least wary!

He stumbled to his feet.

"What are we going to do now?"

"You've got to escape," said Vanja quickly. "I'll arrange to have that bomber ready. You must go."

"You're going along!"

"Yes . . . yes of course," she said. "Stay here. I'll see that the plane is made ready. We may have to fight our way to it. But we have men at the airport who will cover our take-off."

Vorosh thought of Briggs.

"This news! No one will know of it for awhile yet. Not even the Germans. I've got to warn him. There may be people he can get out of harm's way before it is too late. Americans marooned here . . .

"Congress will declare war on both

Japan and Germany in the morning!"

"Yes," said Vanja. "Go ahead. Then come back as soon as you can. We will leave as soon as possible."

VOROSH grabbed his coat and hat and plunged through the door. Outside he took a cab and gave the address of the American Consulate.

Within fifteen minutes he was standing before the puzzled man.

"What's the uproar?" asked Briggs.

"Nothing. Except that at approximately seven o'clock this morning, Pearl Harbor time, the Japs dropped in on us—and if Hess isn't wrong, wiped out the United States Pacific fleet!"

Briggs paled.

"Man, you're lying!"

"I won't argue that," said Vorosh grimly. "You'll find out whether I am or not soon enough—but not soon enough to do a lot of things you could do now if you'll use your head. That's up to you. I came to warn you, and give you that chance to act. As for myself, I know where I stand. And I'm getting out of Berlin as fast as I can. It's Russia for me . . ."

Briggs stared at him, seemingly stunned by what he had heard. Then he swallowed hard, stuck out his hand and shook that of Vorosh fervently.

"Men don't look like you do when they're lying," he said. "I'm grateful for the warning, Vorosh. And if you don't mind, I'll begin a little bonfire downstairs. He half-turned, then wheeled back to Vorosh.

"Maybe I can help you get out of town . . ."

Vorosh shook his head.

"No. Miss Nilchenko is arranging that. She's leaving too . . ."

"That's best," agreed Briggs. "And I hope to hell we have the chance to meet again!"

"Sure thing!"

Vorosh wheeled and left the Consulate. He made his way back to the hotel, walking swiftly because he saw no cabs in the evening dusk. After a half-hour walk, he neared the hotel, then stopped short and ducked behind a huge tree.

"Soldiers! Gestapo guards!" he gasped.

Even as he watched, von Holder appeared in the doorway of the hotel, accompanied by Vanja Nilchenko. She was pale, but composed. There was a half-smile on her face.

Von Holder put her into his car, climbed in after her, and the soldiers got into the front seat. With a roar of its motor the car spun around the corner and away.

Vorosh was stunned.

"They've got her!" he exclaimed. "I'm too late. And I don't even know where they've taken her . . ."

He stopped as a horrible thought struck him.

"My God! The lie detector! That's where they'll take her. And when they get the truth out of her . . . !"

Vorosh left the protection of the tree and plunged toward the hotel. He forced himself down to a walk as he reached the entrance, and went in. He looked neither to right nor left as he went toward Vanja's room.

CHAPTER XII

Lie Detector

"GO IN!" said Von Holder grimly, motioning to the door.

Vanja Nilchenko walked into the room wordlessly, then stood calmly while Von Holder followed her and closed the door behind him. She stared around the room, noted the strange machine that stood beside a low couch.

It looked very much like the barrel of a cannon, with strange electrodes attached to it by means of wires. There was a small control box mounted on it, with several switches protruding from it. The side of it bore an insignia, R-8.

"What is that?" asked Vanja.

"A very clever invention of a Polish scientist. It is the most effective and perfected lie detector ever invented."

"But what is that to me?" asked Vanja.

"Possibly nothing," admitted Von Holder. "However, things have happened which suggest some use for it. For instance, you may remember that your first performance here in Berlin was before Hitler himself. At that time you gave him a strange message. A very strange message indeed. One which you could not have known—unless it is true that either you do have powers of reading the human mind, or you knew from *another* source. It is that power, or source, I wish to verify. If you can read minds, this instrument will accept your statement that this is so as true. If you lie, the instrument will tell me."

"What has my mind-reading got to do with it?" repeated the girl. "Why must you verify what is obviously a simple hoax performed on the stage?"

"You *can* read minds, you've said," reminded Von Holder. "Now you say it is a hoax?"

"I say the act is a hoax. I can, and do read minds, but only under certain conditions, and only certain minds. In an audience . . ."

"Certain minds!" Von Holder placed special emphasis on the words as he interrupted her. "Yes, my clever actress, that is exactly the point that intrigues me. Which *certain mind* did you read when you gave our Fuehrer that tremendously important message?"

Vanja did not answer him but stared into space. In her mind an urgent voice was ringing—the voice of Pete Vorosh!

VANJA! Vanja! it called desperately. *Can you hear me?*

"Yes . . . yes!" breathed the girl softly. Her eyes closed.

Von Holder stared at her, moved forward.

"What did you say?" he asked. "*Fraulein* Nilchenko, what is the matter?"

Vanja ignored him for the moment.

What are they doing to you? came Vorosh' voice. *Are they using that new lie detector on you?*

Not yet! Vanja returned mentally. *But very soon now. I'm afraid this is the end for me, Peter . . .*

If they use it, you're sunk! The whole truth will come out. I've heard of the new detector. It's a wonderful thing—but a terrible thing for you. Listen, please, Vanja. There is one hope. Let me hypnotise you as we did Hess. Then I can erase all these memories from your mind, and put new answers into their place. Thus, you will answer innocently, and the machine may not dig out the truth . . . !

Vanja loosed a little moan, clutched at Von Holder.

"I'm fainting!" she said.

Mentally she answered Vorosh.

I'm faking a faint. Go ahead and hypnotise me.

As she slid to the floor Von Holder leaped forward and caught her. He lifted her and carried her to the couch. There he fastened the electrodes to her wrists, bared her body, and placed other electrodes at the base of her skull and along her spinal cord.

In Vanja's brain a voice was ringing.

Sleep! Go to sleep! You are becoming drowsy. You want very much to sleep. You are placing yourself en-

tirely under my control. You are perfectly willing that I should control your every thought. Sleep! Sleep! Sleep . . .

Slowly Vanja's consciousness slipped away from her. Her breathing became deep and regular and she slept soundly. She was unaware of Von Holder's puzzled gaze as he stared down at her. And also, she was unaware of the man with a moustache who entered and stood beside Holder, looking down at her.

"YOU are sleeping, Vanja. You are completely in my control." Vorosh concentrated intently on the skull before him in Vanja Nilchenko's room at the hotel. His face was drawn with intent lines, and he was pale. But his voice droned on penetratingly, soft but vital.

"You have forgotten what your mission here was. You came only to be an actress in Berlin. You are not a spy, and never have been. You are opening your mind to me, Vanja, listening to all around you, so that I may hear their voices . . ."

Vorosh paused in his concentrated mental effort, which he was aiding by speaking aloud. Would it work? Could he command such miracles as this? *

His answer came almost immediately. For a moment his jaw dropped as a voice sounded in his brain.

"Fahren sie fort, General Von Holter, und was ist mit dem Amerikaner? Ist er in verwahrung genommen?" [1]

It was the voice of Hitler himself!

The voice that followed was also familiar. It was that of the Nazi officer, Von Holder.

"Jawohl, Herr Hitler. Er wird arestet in kürze." [2]

Although he recognized the voices, Vorosh failed to understand the words. But now Von Holder began speaking in Russian, questioning Vanja.

Vorosh telepathed a hasty message to Vanja's mind:

"Answer only in my words!"

"You can read minds?" asked Von Holder.

Even in his own mind Vorosh could hear the low droning of the strange mechanism of the lie detector.

Vorosh answered through Vanja's lips.

"Yes. I can read certain minds whose vibrations are in attunement with mine."

"Can you read my mind?"

"No."

"Can you read the Fuehrer's mind?"

"No."

"Whose mind did you read the night you gave the Fuehrer a message?"

"Rudolph Hess."

"Gott im Himmel!" It was Hitler's voice.

"Have you read his mind since that time?"

"Yes."

"What did he say?"

* What Vorosh is doing here is entirely possible. A hypnotist may control a subject to such an extent that he can erase all memories from the subject's mind. Even under stress, the subject will answer questions and actually believe in an untruth with unquestioned faith in its truth. False memories may be implanted. In this case, the subject, with the aid of the tele-radio, is so completely under the influence of the hypnotist that the senses of the subject become the senses of the operator, thus enabling him to hear the things the subject hears, perhaps even see, smell, and feel the things the subject experiences. Thus, in giving Vanja this command, Vorosh is apparently taking a long shot, but it actually proves to be practicable.—Ed.

[1] "Proceed, General Von Holder. And what about the American? Is he being taken into custody?"—Ed.

[2] "Yes, Herr Hitler. He will be arrested within a short time."—Ed.

VOROSH trembled before the skull in Vanja's room at the hotel as he put words into Vanja's mouth. Abruptly he was realizing the opportunity that had been placed before him to strike a great blow for the eventual defeat of Hitler and the Axis. And also, the opportunity to finish right now the work that he and Vanja had been intent upon since their departure from Moscow.

"I cannot read his mind so literally. But many times I have gotten the impression that he thought of important things to be discussed between himself and two men high in British military and diplomatic circles . . ."

"Which men?"

"Winston Churchill and Anthony Eden."

"What sort of discussions?"

"Plans for the future, after the war, and after Germany is defeated. Plans to trap German armies. Plans to cause unrest in Germany, to foster revolution. To deceive the German High Command. And even to deceive Hitler himself. It seems to me that Rudolph Hess hates Hitler, that he has sworn to testify one day at his trial, for murder! For the murder of a girl named . . ."

"Stop!" Von Holder's voice rang harshly.

Vorosh waited for another question, inwardly exulting.

"Can you name one plan to entrap German armies, in specific detail?" Von Holder's voice was hoarse now.

"Yes. One was a trap for German arms at Rostov. Another, but not so important, at Vyasma."

"Then Rudolph Hess is a traitor to Germany; he has given the enemy vital information about our secrets?"

"Yes. I am sure that is true."

In Vorosh' ears rang a hoarse, shouted curse in German, and he smiled gleefully as the Nazi leader ranted madly.

Von Holder spoke again.

"Vanja Nilchenko, thus far the lie detector has confirmed your every word.* What are you doing in Berlin?"

"I have always wanted to come to Berlin to perform on the stage. Here there is opportunity."

"You are a Russian. Are you against Russia?"

"I do not care who wins the war, personally. I only hope that whoever wins, it will not interfere with my career."

"Would you renounce Russia, if we guaranteed your career here?"

"Why not?"

"Do you know any secrets of the Russian military?"

"Yes."

"Will you tell us of them?"

"Yes."

"Put up your hands, Amerikaner!"

STUNNED by the unexpectedness of the command from inside the room, Vorosh whirled around. Facing him was a Nazi lieutenant, and behind him were two soldiers.

"What are you doing there?" asked the Nazi officer in perfect English.

Vorosh reached around behind him in an attempt to touch the tele-radio. The officer leaped forward, tried to intercept his action. Vorosh lashed out with a fist, caught the officer on the side of the head. He reeled back, and

* Actually the lie detector is ineffective here. Vanja is unconscious, under the hypnotic influence of the tele-radio, and has no knowledge of the answers she is giving to Von Holder's questions. Her physical reactions remain unchanged, unruffled by mental reactions. Thus apparently her answers are without nervousness, and perfectly truthful. This is really a silent battle between two machines, and Vorosh has an unbeatable advantage. The lie detector cannot react to his answers, given through Vanja's lips.—Ed.

Vorosh whirled around. He put his fingers in the eye sockets of the radio and flashed a desperate final message.

Wake up, Vanja. I am being attacked. Take over from here . . .

He shut the radio off. But now the lieutenant recovered, and he grappled with Vorosh. He whirled Vorosh around, then gasped as he saw what Vorosh held. The two soldiers leaped forward too, one of them diving for Vorosh's legs. The skull went flying, crashed against the wall, split open, and smashed to the floor, a mass of wreckage. Tangled wires and tubes lay in a revealed heap.

Vorosh struggled, but he was helpless.

"So!" barked the enraged lieutenant. "Broadcasting secret messages through a concealed radio!"

Aghast at the disaster that had befallen the precious and irreplaceable tele-radio, Vorosh was filled with fury.

"Damn you!" he shouted. "That wasn't a radio. It was Miss Nilchenko's floating skull that she uses in her act. You'll have to answer to Von Holder for this vandalism . . ."

The Nazi officer spat at him.

"Von Holder sent me to arrest you, Amerikaner! *You'll* answer to him and maybe Miss Nilchenko will answer too, when he finds out that her innocent stage prop is really a broadcasting radio. I heard you speaking into it, Mr. Vorosh!"

Vorosh's heart sank. If this man got back to Von Holder, Vanja's life wouldn't be worth a plugged nickel.

He tore desperately at the soldiers who were holding him. A gun butt descended stunningly on his head. Dazed, he staggered, went to his knees.

A shot rang out, curiously muffled, and Vorosh, head spinning, saw the lieutenant go down, his face a blank mask of death. Surprise tried to penetrate the fog that beclouded Vorosh's mind, and succeeded to an extent. He tried to fumble erect, was conscious of two more figures in the doorway.

RED flame darted from the hand of one, and one of the soldiers grappling with Vorosh sank wordlessly to the floor, blood gushing from his mouth. Vorosh hurled his body against the other Nazi, who was leveling his rifle at the door. He fell, off balance, and the two figures in the door came forward. A gleaming knife rose and fell. A gurgling scream was cut short at its source, and the last Nazi soldier died.

Vorosh felt his brain clearing now. He regained his feet.

"Who are you?" he gasped.

Both men were in civilian clothes. One of them spoke.

"Don't you remember me?"

Vorosh peered at him.

"For crying out loud! The officer who took me to General Vidkov when I crashed in the haystack!"

The Russian grinned.

"Yes. But come now. We've got to hurry. The plane waits at the airport."

"We can't go yet!" gasped Vorosh. "Vanja . . . we've got to rescue her."

"That's being taken care of. Our men followed when she was taken from here. I'm sure they'll get her as soon as possible. We have to trust to them. Our chance is very limited. We must go now. No telling whether anyone heard the scuffle in here, even if our guns have silencers."

Vorosh put on his coat and hat and walked to the door with them.

"You certainly came in the nick of time," he said. "It looked like the end for me. And if that lieutenant had gotten back to Von Holder with what he knew, the jig would be up with Vanja . . . *wait! We've got to take the skull with us!*"

"Of course!" The other Russian hastily gathered the smashed skull and its revealed radio coils into a bundle and thrust it under his coat. Then they let themselves into the hall.

Down the rear stairs they walked, and into the alley. A taxi stood there, motor running.

"In!" said the Russian lieutenant tensely. "We've got no time to lose!"

Vorosh piled in and the two men who had come so ably to his rescue climbed in beside him. The taxi drove off through the night.

CHAPTER XIII

One Bomber—Hellbound!

BERLIN'S streets were blacked out, and progress was irritatingly slow. But as they drove along the Russian secret service man explained the situation to Vorosh.

"We have arranged with several of our agents at the airport to have a bomber ready. We will take off in it, and will have all-clear signals. But we will have to fly fast and dark from there, because almost immediately the officials will realize that something is wrong. We may run into ack-ack fire."

"Just let me get the plane into the air, and they won't touch us!" said Vorosh grimly. "Will we have guns?"

"Yes. I've arranged for ammunition for all the guns. And the bomb-bays will be full also. We may want to drop a few bombs while on the way."

"Good idea," grunted Vorosh with satisfaction. "It'll give me a great kick to give these butchers a taste of their own bombs."

Vorosh subsided into silence as they drove along, thinking of Vanja. As he thought now, he realized just how slim her chance was of getting hrough. Before the skull had been destroyed, he had lulled Von Holder's suspicions, and if he'd had a few minutes more, he might have even effected her release.

"We're at the airport!" said the lieutenant.

The challenge of a sentry brought the cab to a halt, and the lieutenant stepped out. He presented papers to the guard, and after a few moments wait they were returned.

The cab proceeded toward a row of gigantic hangars; pulled up to a halt. Another sentry came forward, challenged them. The lieutenant spoke in Russian, and the sentry saluted sharply in the dark.

"This way," he whispered.

He led the way forward, Vorosh following the lieutenant closely. They entered a hangar, deserted except for the looming bulks of giant Nazi bombers. One of them was standing before the great doors, apparently waiting and ready. The guard led them to it, and they climbed aboard.

"We're all leaving this time," said the lieutenant. "Our usefulness is ended here. Now if the rest arrive with Miss Nilchenko, we will be ready to take off . . . Boris, open the doors. We must be ready."

The Nazi guard opened the doors, then came and stood beside the open door of the plane. In his hand he held a sub-machine gun. He passed several more to the lieutenant, who gave one to his companion.

VOROSH entered the control compartment, slid into the pilot's seat. His practiced eye roved over the instrument panel. He smiled in satisfaction. Whoever had prepared this plane had done a good job of it. It was ready!

He peered anxiously through the great hangar doors toward the place that marked the entrance in the fence

through which they had come. All was darkness along the road that led back to Berlin. Here and there a dim light showed, but the city was almost completely blacked out.

For perhaps ten minutes they waited tensely in the darkness, then Vorosh tensed. Coming toward the hangar on the run were a half-dozen figures.

The voice of the Nazi-dressed Russian guard, Boris, came in alarm.

"They've discovered us!" he called. "We've got to get out of here. Can't wait any longer! Get the motors started, while we hold them off!"

Vorosh paled, felt a strange sinking sensation in his heart. Before him rose the image of Vanja Nilchenko, and suddenly he realized the truth. When he took off in this plane, he would leave behind him all that was worthwhile to him, personally. But even as he thought of this, he thought of the Nazi hordes overrunning Russia, of the death, destruction and misery they had caused. He thought too, with a sudden shock of horror, of what must have happened at his own beloved country's Pearl Harbor that very morning. Rage filled him.

Savagely he reached his hand out; snapped on the starting switches. In a few seconds the whine of the starters came, built up, until all at once the giant motors broke out into a roar. Almost immediately the plane began rolling forward.

The chatter of machine guns came from the still-open door. Vorosh saw four of the six running figures topple in grotesque death. The other two hurled themselves to the ground, and red flashes came from them.

A searchlight snapped on suddenly, swung around, caught the plane in its beam. Vorosh gunned the plane forward, his lips tight.

Then, in the same beam of light, he saw the cab approaching the outer gate. He veered the plane around, shouting.

"It's Vanja! I'm going to pick her up!"

The lieutenant was beside him, peering forward. His face was tense, but he did not disagree.

Vorosh sent the plane thundering along the ground toward the gate. He saw three figures pile out of the cab and run through the gate. One of them shot the guard dead as he ran.

The big bomber wheeled sharply around. The three running figures pelted toward it. They reached it, but a hail of lead was sweeping from somewhere and one of the figures went down in a ghastly broken heap.

The other two reached the door and clambered in, assisted by Boris.

VOROSH took one look at the limp heap of the third figure, then gunned the plane down the runway. Searchlights were snapping on all over the airport now, and suddenly all the lights flashed on. The brilliance was in startling contrast to the previous darkness, but Vorosh laughed aloud.

"The fools," he chortled. "Now I can see where I'm going!"

The giant bomber picked up speed, lifted slowly into the air. Vorosh gave it all he had, and it climbed leadenly into the clouds. A dozen searchlights followed, and machine-gun bullets whistled close. But suddenly they were out of range.

An anti-aircraft gun went into action, and an orange puff-ball blossomed a half-mile above them and to the side.

"Lousy aiming!" yelled Vorosh.

He sent the plane into a series of twisting evolutions that the bomber was never meant to perform. He shook off the searchlights momentarily, and taking advantage of the opportunity, sent the plane down in a screaming dive, then leveled off and came up at great

speed. He was hedge-hopping for a time, then bore up. A single beam found him now, and an ack-ack battery began firing. But the bursts were high in the air, and wildly placed.

"We've made it!" he yelled. "They won't stop us now!"

But even as he spoke, a slim shape streaked out of the black sky, and tracers whipped past the bomber. It was a Nazi fighter.

Vorosh sent the bomber into a series of elusive maneuvers, but the fighter came at them again. Once more he missed, and zoomed on past. But he came back. This time an answering burst of fire came from the bomber, and a hail of lead streamed out at the fighter.

Warned, the pilot veered his ship away, came back at another angle.

The big bomber was hard to handle. Vorosh knew the answer immediately. Overloaded. The bombs!

He peered down, saw that they had come from the airport in the direction of the city. They were directly over Berlin.

"Jettison those bombs!" he screamed at the Russian lieutenant. "We'll be shot down if we don't. We're too heavy."

The lieutenant nodded, disappeared back toward the bombardier's position.

A moment later the bomber lurched, lifted perceptibly. Vorosh could almost hear the bombs screaming down from the open bomb-bay doors. He banked the big bomber a trifle, saw the fighter coming back at them. He bore toward it, gave Boris a chance at it with the sub-machine gun.

Down below giant bursts of light came as a dozen big bombs exploded. The flare illuminated the whole of central Berlin, and Vorosh's lips held a tight, savage grin as he realized that Berlin had gotten an air-raid that was entirely without warning. He could see a great gout of flame rising from below, and he realized something vital had been hit.

The oncoming fighter had veered as its pilot realized what had happened and stared down, aghast. It was then that Vorosh swung the bomber in sharply and brought Boris up almost beside the smaller plane.

Flame lanced across the intervening distance, and the Nazi pilot slumped down in the cockpit. The motor began spouting black smoke; the plane tipped its wings down, then began a deadly spin toward the city below. Flame belched from it, and it slid down the sky a flaming torch of light and smoke.

Vorosh looked at his compass, set the ship toward the east, and gave her full throttle. The roar of the motors became a giant thundering song as the flaming city was left far behind. Ahead of them was darkness, and Russia.

VOROSH sat alone in the cockpit, staring straight ahead. He was afraid to look around. Before his mind's eye loomed the grim sight of a limp figure sprawled on the ground of the airport. One of three . . .

Who?

He swallowed hard. Then he froze. Someone was clambering up in to the control cabin behind him.

Who?

A hand touched his arm. He turned, looked into Vanja Nilchenko's violet eyes.

"Vanja!"

Vorosh put out one hand and took hers into it.

"Just tell me that you're real and that you're here, safe and sound," he said. "I nearly died as I sat here thinking that you . . . that you weren't one of the two who got safely aboard."

Vanja's features softened regretfully.

"Poor Alexis. He will live long in Russia's memory."

"How did they rescue you?" asked Vorosh. "And what happened back there in Von Holder's laboratory when I awakened you from the hypnotic trance?"

"I realized instantly that something had happened to you," she said. "I no longer had any contact with you. But really, nothing happened after I came to. Von Holder had already disconnected the electrodes, and he said I had answered satisfactorily, and that he would return me to my hotel."

"Wasn't there anybody else in the room with you?"

She looked puzzled.

"No. That is until a moment later when Alexis and Ivan came in and shot Von Holder dead."

"Shot him!" Vorosh exclaimed, then smiled with mirthless lips. "Good! That was one Nazi I wanted to see shot."

"Well, that's all there was to it. We left the building, got into a cab, and drove to the airport, just in time to be seen by you and picked up. Now we are here . . . but tell me, what happened when you hypnotized me?"

Vorosh grinned, told her the way he had answered the questions Von Holder had put to her, and of the important visitor that she had had, and what his reaction had been to the answers to the questions. As he finished, Vanja's eyes gleamed.

"I owe you my life. That was a clever thing that you did. And Russia owes you a great deal too. You accomplished our mission in one brilliant act."

For a long moment Vorosh stared ahead.

"Where do we go from here?" he asked finally. "What do we do?"

"What do you want to do?" asked Vanja softly, looking up at his set features.

Vorosh shrugged.

"America is in the war now, and somehow, I'd like to fly for my own country. America is my country, even if I came originally from Russia. Perhaps you don't understand that . . ."

"But I *do!*" she interrupted. "I understand it perfectly, and . . ." her voice became a little wistful ". . .sometimes I wish that I too were American."

Vorosh turned to her.

"Vanja," he said. "I've discovered something tonight. Something I must tell you."

"What is it?"

"I'm in love with you, and I want you to be my wife. Say that you will, and I'll take you back to America with me, and you can be a citizen of the country I love. And you'd love it too . . ."

She looked at him.

"Yes, Peter, I have an admission to make too. I've been in love with you for a long time. And I *want* to be your wife . . ."

VOROSH turned in his seat, and gathered her in his arms. He kissed her on the lips, then lifted his head and stared into her eyes.

She drew away, her eyes deep and serious.

"But we can't marry yet. After all, I am a Russian, and I am in the Russian Intelligence Division for the duration. And I have much more work to do. If John Zymanski really is on the track of something new, as I understand from General Vidkov, I will be very busy. But whatever happens, we can't get married until after the war."

Vorosh remained silent a moment, then he drew her to him again and kissed her once more.

"Yes," he said. "That's the way it

must be. And what you've said has clarified things in my mind too. You have your duty here, and you are officially in the service of your country. I am in the service, right now, of no country at all. My country is at war. I should be doing my part, just as you are. At first I thought I could join the Russian air force, and that would be doing the right thing. Now all that has changed.

"The Japs have attacked Pearl Harbor. They'll go further than that. They'll take the Philippines, attack Alaska . . . even the United States itself.

"I'm a fairly good pilot. And with my story justified—Briggs will no doubt be able to help me, knowing now that I was telling the truth—I can return to America and join the American Air Force."

Vanja smiled at him, returned his kiss.

"That is what I wished you to say," she said. "We must both do our share, then when it is all over, we can think of our personal happiness. You can come for me, and we will both go to live in your wonderful America."

Vorosh tightened his arm around her slim shoulder.

"You bet I'll come for you!" he said.

* * *

THREE weeks later Peter Vladimir Voroshilov, once more the Pete Vorosh of Buffalo that he had been before the amazing stratosphere storm had come to snatch him into incredible adventure, walked up the gangplank of an American Clipper ship at Lisbon. As he slid back into a seat in the big ship, a voice came from across the aisle.

"Mr. Pete Vorosh, I believe?"

Vorosh whirled.

"Briggs!" he exclaimed. "What are you doing here?"

"On my way back to America," grinned Briggs. "I'm figuring on joining up with the Navy. I've had some experience along that line . . . And incidentally, I've got a little clarification of a situation that exists at present between the Department of Justice and a fellow named Pete Vorosh who is . . ."

"On his way to join the U. S. Army Air Force!" finished Vorosh.

Briggs got up, sat down in the seat beside Vorosh.

"You know, Pete," he confided. "I have a hunch you had something to do with a mess of bombs that dumped on Berlin the night we got the news of Pearl harbor. The pilot, maybe? I figured you'd find some dramatic way of saying goodbye to the old burg!"

Vorosh grinned.

"You can thank the Russian Secret Service for those bombs," he said. "And you're right about the pilot part. In fact, I was just getting a little practice—before I come back with a load of *real* eggs. Good old U. S. eggs, laid from the bomb-bay doors of a B-18, or Flying Fortress to you!"

"Lay a couple for me, will you?" said Briggs. "And I'll do the same for you at Tokyo. I'm just aching to pump a few 16-inch shells into that dirty little yellow city!"

The American Clipper roared across the water of the Lisbon harbor, then lifted into the air, headed west. Aboard her two Americans shook hands.

Take it or leave it, Berlin and Tokyo, that handshake means they'll visit you again!

And when they do . . . !

THE END

NEXT MONTH—"Phantom City of Luna"

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THE HUMAN BODY A MIGHTY FORTRESS

By A. MORRIS

Here are some amazing facts about the human body that provide an incredible true parallel to the things this war brings to the headlines as news

DID you know that your body resembles a huge fortress; that it is almost always engaged in active warfare against a host of foreign invaders, who would destroy the body if it were only within their power to do so? It is a very interesting study, indeed, that attempts to describe the mechanisms of defense the body uses, and gives an account of the types of battles that take place. It is of the utmost importance that one should have at least an inkling of what goes on inside of him. Therefore, without further introduction, let us attempt to describe the high-lights of this all important subject. The body, like any good fortress, has more than one defense—so that if the first defense should be pierced, the body will still find itself in a position, by virtue of its other defenses, to give battle to the invaders. Let us imagine ourselves as being microbes; we are then in dire need of food and a warm place to propagate, and as we have decided to invade the human body—for once we have conquered this rich prize, we are in a position to live off the fat of the land. We look over the body in much the same manner as a criminal would do when "casing" a job. What we are really looking for is an easy method to gain entrance into the body proper. Covering the body and hence barring our entrance, is the skin. It is impossible for us to get through this skin defense as long as it remains unbroken. We could, of course, lie in wait for the skin to be punctured, and when this occurs, rush right past the first defense of the body via this opening. We are not the waiting type as are some of our brother microbes (tetanus, streptococcus, etc.), and so we look about for some other soft spot. "What about the lining of the natural body cavities—the mucous membranes which protect the mouth and nose?" "It should be an easier nut to crack than the skin armor, for it is not washed as often." We soon find that the body has long since recognized the lining of the mouth and nose as a weak primary defense, and so has provided this mucous membrane lining with auxiliary weapons with which to defend itself. It has given the mucous membrane the power to secrete a sticky substance which acts as a fly-paper on the invading microbes. The body also conceived of an attack via the lungs—all a microbe need to do is find a particle of dust on which to set and thus be sucked into the lungs along with the air and dust. The body provided the cells of the respiratory tract with brush like structures that let in the vital air, but sweep back out the dust and microbes. If a microbe tries to enter the body via the digestive system, he has to contend with the powerful hydrochloric acid when he reaches the stomach.

Suppose a microbe does succeed in breaking through one of the primary defenses? Suppose he made his entrance through a rupture in the skin. What has the body in store for the bacteria once he has found himself inside the body proper?

Before considering the actual secondary defenses of the body, we must examine the composition of the blood. For it is in the blood itself that most of the final decisions are reached.

The blood consists first of a fluid portion called the plasma, which constitutes from 50 to 60% of the blood. Dispersed in this fluid plasma are the solid elements which give the blood its opacity —namely: red cells, platelets, and white cells. The important task of the disc-shaped red cells is to carry oxygen to each and every cell of the body. It is by virtue of a red-colored pigment called hemoglobin that the red cells are able to carry about the oxygen. This red pigment seems capable of uniting with oxygen to form a loosely bound compound; the compound can be decomposed very easily in the presence of oxygen hungry cells to yield the precious oxygen. The red cells of the body (of which there are about 5,000,000 per cubic millimeter of blood) are not directly concerned with the defense of the body. It is true that during battle their oxygen is an important factor in the success or failure of the body, for oxygen means energy and whenever the body is engaged in a mobilizing effort, energy may be considered as being vital. As to the platelets and the role they play in the defense of the body, little is known. We do know that the

platelets take an active part in the formation of blood-clots; that they increase in numbers and concentrate about a wound, and that their disintegration produces a substance called thromboplastin which neutralizes an anti-clotting substance in the blood stream. As far as the active defense of the body is concerned, the white cells of the blood are of paramount importance. Actually there are several kinds of white blood cells. The leucocytes comprise about 70% of all the white cells of the body, and we will focus our attention primarily upon them and their role in the secondary defense of our huge fortress. The leucocytes may be called the roving policemen or soldiers of the body. They patrol the bloodstream in search for any foreign particle which may have filtered through the primary defenses. They concentrate themselves about the most vulnerable part of the fortress and lie in wait for a possible attack. There are usually about 7,000 of these white soldiers per cubic millimeter of blood. In case of a serious attack, they may mobilize and increase their numbers to as high as 40,000 strong. The white cells lack a firm membrane and hence possess no definite shape nor form. They owe their germ-destroying powers to this ability to take any form or shape they require. If a white soldier spots a foreign substance in the human blood-stream he attacks it as follows: First, he floats up to the foreign particle and gets as close to near contact with it as possible. Without warning the white soldier starts to take a new shape; he throws out false arms about the foreign particle and begins to encircle it. After the encirclement is complete, the foreign particle finds itself inside the protoplasm of the white soldier, an easy victim to the digesting juices of the white soldier's body. The white cells concentrate themselves about a wound and may engulf an entire invading army before it has the chance to do the body any great harm.

While in certain types of diseases the warfare is restricted chiefly to a hand-to-hand combat between the invading microbes and the white soldiers, a great many of the battles that take place in the body are fought through the medium of chemical warfare, or in most cases a combination of the two.

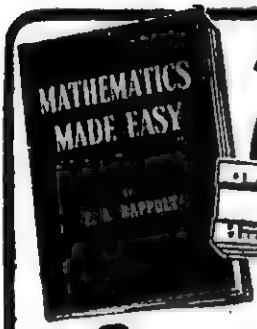
Let us describe a battle between the diphtheria bacillus and the body. The war that exists in this case is mostly chemical in nature. The diphtheria germs rarely penetrate into the bloodstream; they are too good at trench-warfare to expose themselves. The diphtheria germ would much rather bury itself within a false membrane type of trench and secrete poisonous toxins (or chemicals) into the bloodstream. Why should the diphtheria actually expose itself in active battle, when it seems so easy to poison the vital supply line of the enemy? The body is not so easily defeated by this type of a scheme. It too can play a good hand at this chemical type of warfare. If the diphtheria tries to poison the important waterway system of the body by this secret poisonous weapon, the body is prepared to meet fire with fire. Immediately the body springs into action. The cells start to secrete a chemical of their own (antitoxin) which has the power to neutralize and render useless this poisonous substance which the diphtheria germ has been using.

The typhoid fever microbes are bolder; they actually invade the bloodstream. The body must now concentrate on two major problems; it must first neutralize the poisonous toxins of the typhoid fever microbe and at the same time destroy the microbes themselves. The body is prepared for this direct attack, and immediately puts certain specific weapons it has been saving—for just this particular occasion—into use. As in the diphtheria attack, the cells of the body start to secrete an antitoxin which will render the toxin of the typhoid fever army useless. This antitoxin is specific and will only neutralize the harmful effects of the typhoid fever toxins. Against the diphtheria bacillus it is probably of no use.

While the antitoxin is being produced, the white soldiers of the body are busy encircling and destroying the invaders. In order to make this task as easy as possible for the white soldiers, the cells of the body secrete certain chemicals which slow down their fast moving invaders and also make them stick together in clumps, so that they can easily be encircled and destroyed by the slow moving white soldiers. The body also secretes a substance which is capable of dissolving the enemy and hence disintegrating him completely. All these chemicals secreted by the body are specific for a certain type of bacteria only. The white soldiers will attack any form of invader and is therefore put to use in any type of invasion.

After a battle is over and the body victorious, an interesting post-war condition may arise as a direct result of the battle that was fought. The body generally produces too much of its secret defensive weapons during a battle, with the result that after the fight is over the body still possesses within its bloodstream an over-abundance of protective juices. The result of this is an active acquired immunity to this specific disease. In other words, were the body to become invaded again by the same germ that had just been defeated, the germ would meet a hostile type of blood—within which were present the chemicals that had once before defeated this germ and could certainly do so again, much more quickly this time.

The length of the active immunity varies with the type of microbe this immunity is specific for. In some cases the immunity may last forever. In some cases there may never be an active immunity after a disease has been successfully driven off. On the contrary, the body may now be weakened so as to be even more susceptible to further and renewed attack by the microbe that first caused the disease.



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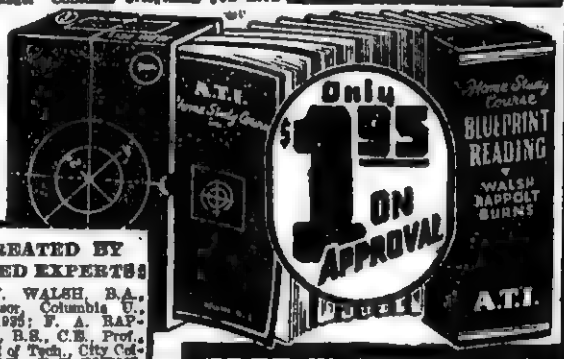

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VIGNETTES OF FAMOUS SCIENTISTS

By ALEXANDER BLADE

Guericke

The German physicist was the first man to make the vacuum pay dividends. He discovered the pressure of atmosphere.

THE celebrated German physicist, Otto von Guericke, was born at Magdeburg, in Prussian Saxony, on November 20, 1602. He studied law and mathematics in Germany and at Leyden, and afterwards traveled extensively in Holland, England, and France. In 1636 he became engineer-in-chief at Erfurt, in the army of Gustavus Adolphus. In 1646 he was elected burgomaster, or mayor, of his native town, Magdeburg, and a magistrate of Brandenburg. About this time he became greatly interested in the experiments made a few years before by Galileo, Pascal and Torricelli, on the weight and pressure of the atmosphere and attempted the creation of a vacuum.

His first effort was made by filling a stout wooden barrel with water and then pumping it out. But he found that though the barrel would hold the liquid without leaking, it could not be made tight enough to exclude an inrush of air, while the water was in the process of being taken out. His next attempt was made with a hollow copper globe, fitted at one place on its surface with an opening to which the suction of a water pump could be securely attached, and at another with a stopcock. He filled the globe with water, attached his pump and started it in operation. To his amazement he found that the pump extracted the air quite as well as the water, and when he opened the cock the air rushed in with a whistling noise. Also, after exhausting the water and closing the stopcock, his water pump would draw out the most of the air, as well as the water, until in fact the pump itself began to leak air, and the copper globe began to show signs of collapsing. To Guericke therefore belongs the honor of having invented the first air pump. The year was about 1650.

Convinced that he had made an important discovery, and wishing to exhibit in a striking way the effect of atmospheric pressure, he built two stout hemispheres of brass, each about a foot in diameter, which fitted together accurately on their flanged edges, and provided one of them with a stopcock, and the other with a valved opening to which his pump could be connected. Each hemisphere also had at its pole a strong ring, to which the harness of a team of horses could be attached.

Guericke's invention soon became famous, and in 1645 he was summoned to the presence of the Emperor Ferdinand III of Germany at Ratisbon, to operate his apparatus. He first showed clearly that, if the stopcock was left open, the two hemispheres would fall apart, even when the flanged edges were heavily greased. But when the cock was closed, and the air pumped out, the two teams of horses provided for the experiment, and working in opposition to one another, were unable to separate them.

This famous experiment, commonly known as the "Magdeburg Hemispheres," created the greatest interest throughout intellectual Europe, and started a movement in physical investigations which led before long to other discoveries equally important and astonishing.

Guericke is also known as the first investigator to demonstrate that sound is the effect produced on the mechanism of the ear by vibrations of the air. This was done by suspending a bell in an airtight glass vessel and in such a way that it could be rung from the outside of it. When the air was exhausted by a pump, and the ringing mechanism set in motion, the clapper could be seen plainly to be striking the rim of the bell, but no sound resulted. However, when the bell was hung in such a way as to come in contact with the side of the glass container, so that the vibrations could be communicated to the glass, and then rung, it became audible at once.

"De Vacuo Spatio," a work in seven books, written by Guericke in 1663, was published in 1672, and the third book, which contains an account of his experiments, was translated into German and published in Leipzig, in 1854.

Besides investigating other phenomena connected with a vacuum, Guericke constructed an electrical machine which depended on the electrification of a rotating ball of sulphur; and he made successful researches in astronomy, predicting the periodicity of the return of comets. In 1681 he gave up office and retired to Hamburg, where he resided until his death on May 11, 1686.

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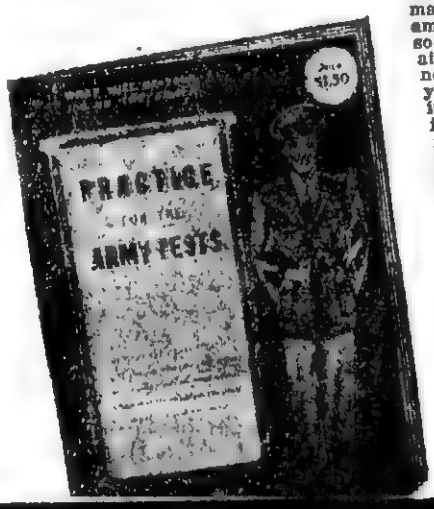

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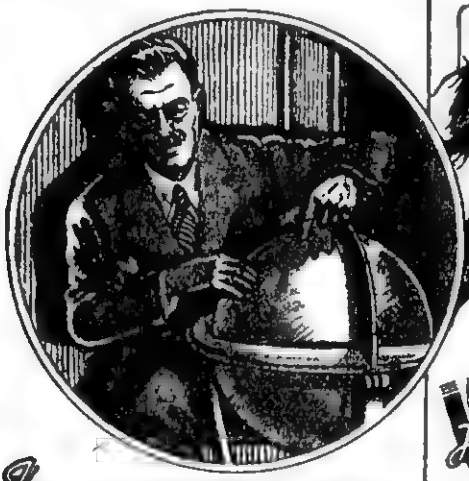

The STUDY OF **ARCHAEOLOGY** MAY BEGIN AS A LARK, BECAUSE OF ITS CHARMS. HOWEVER ONCE YOU HAVE SHAKEN THE DUST OF 10,000 YEARS FROM YOUR FEET, LEGENDS BECOME REALITIES *and* ARCHAEOLOGY AN ENSLAVING HOBBY.

History IS UNFOLDED TO THE YOUNG INDIAN BY MEANS OF FIGURES THAT DATE BACK TO **ANTIQUITY'S DEPTHS.** THESE DISTANT HAPPENINGS ARE— DEMONSTRATED BY VIEWING **TRIBAL DANCE** WITH CORRECT COSTUMES AND MASKS.

Thousands OF YEARS AGO **EGYPTIAN** OCEAN-GOING **VESSELS** APPARENTLY SAILED OVER WHAT IS NOW THE **SAHARA DESERT.** COULD ITS SANDS SPEAK, THEY WOULD PROBABLY TELL THE ORIGIN OF MANY PRESENT DAY TRIBE RITUALS

JOE C. SEWELL

Mysteries

THE MYSTERY BEHIND THE ATLANTIC "TWINS"

By L. TAYLOR HANSEN

Many of the peoples of Earth have strangely similar legends. The legend of the twins, one good, one bad, is most striking.

THE study of archaeology is like a fatal disease. It creeps upon one so slowly and casually that one does not realize what is happening. Then one day he awakes to find he is so entangled in its meshes that he will never escape. Or perhaps one might say that it is a habit as unbreakable as that of dope. Perhaps one begins as a lark. But one ends as its inveterate slave.

In this respect, the study of the Amerind (American Indian) is no exception, for it is living archaeology. One begins because one's sense of the fantastic and weird is delighted with these strange dances and music. The pageantry is the honey which baits the trap. Then slowly he begins to realize that here he has shaken from his feet the dust of ten thousand years. Legends which to the white race were childhood tales, suddenly become alive. Atlantis becomes a real possibility. The great powers which struggled for the trade routes before the dawn of history, begin to live again. One seems to be tottering upon the threshold of a momentous discovery. The trap has sprung. Archaeology has enslaved you. And one does not even suspect what has happened!

The maze of Amerind legend carries some strange figures. They are figures which go back into the very depths of antiquity. If science could only identify them, then history would be able to step back and lift the curtains from the vistas of untold millenniums. Young Indians are told of them around the fire on winter nights. And during the dances, on the appropriate calendrical dates, with the correct costumes and masks, these figures join the festive prayers. If, in the sophistry of our unbounded egotism, we have taught the young Indian to laugh at these figures instead of seeking his help in studying them, then the loss to us and to our posterity may be placed at the door of our ignorance.

Perhaps the most prominent of these figures are the "Twins." The story of these two, which is scattered from the north of the Northern continent to the south of the Southern continent, and even spills over into Norse legend, seems to have its centers in Mayapan and Peru. Here the details are more numerous and better preserved. However, the waves which ripple outward from these centers, carry some interesting and forgotten links of the original pattern.

The "Twins" whose numerous names we shall not attempt to compare, leaving this for some later and more careful student, are consistently individualistic. The older and wiser brother is usually pictured as a great teacher of writing and patron of the arts. This older brother is sometimes spoken of as of the Serpent, but more often of the Sun Totem. By the Algonkins he is "Great Hare" or the "Lord of Light" or of "The Dawn," and is therefore connected with the eastern sea.

The younger brother, on the other hand, is impishly mischievous. His totem is the Wolf, Fox or the Coyote. He is the wind-god, the destroyer and the patron of drunkenness. He is the western god, and among the western tribes, especially the Athapascan-speaking people of the Wolf Totem, Coyote-Man is essentially benign. (The Papagoes with tongue in cheek, take exception to his benign nature. He created the Apaches, they will tell you, and then add: "And in doing that, surely Coyote-Man did not have the best interests of mankind at heart." The fact that the Aztecs took as their main god, this western god, marks them as an essentially western tribe.

THE story of the "Twins" begins with their various types of miraculous birth. Their father, we are told, was "The Great Sun" who lost his kingdom to a conquering alien people who beheaded his majesty, and displayed the head. The conqueror may have been the "People of the Dragon," for this monster is often pictured in the legends of Central America as carrying a head in its jaws.

However, the "Twins" were then carried away into exile where they were raised by their grandmother Spider. The Iroquois say that it was the Moon, but since the Spider or Octopus Totem used the lunar calendar, this discrepancy is most suggestive.

The two orphans (their mother had died at

birth) then made the declining years of the old woman a plague of continual pranks. The Pueblos have the best records of this childhood period. To such an extent is this true of the Zuni, for example, that one finds oneself wondering if two persons of historical importance in the ancient history of the Americas were actually raised by this tribe.

Having attained their adulthood, they gird on their armor, take their lances and their round shields, and set forth to destroy the monsters which were devouring mankind. At this they were completely successful, though some of the means differ, according to the tribe telling the story. For example certain western tribes say that the younger twin allowed himself to be eaten by the Great Dragon and then cut his way out!

At this time they learned about the plight of their father's kingdom. They immediately set out upon a belated revenge. In spite of the machinations of an envious half-brother, they finally conquer the conqueror and in turn behead him.

Perhaps this is where the story should end, yet it does not. The two brothers quarrel and come to blows. The younger wounds the elder who flees to the sunrise sea, the drops of blood from his wound becoming chips of flint. Then Coyote-Man turns and goes west.

In the byways of this legend, lurks the sardonic humor of the red man. If you should have the pleasure of attending some of the pueblo dances and should see one of the dancers stop and talk affectionately to some very fat squaw, or pretend to thunder a sermon from a mail-order house catalogue, to a sleepy audience, you will, of course, recognize the "Twins." To them nothing is sacred —from the marriage relationship to the dancers performing before them.

Yet when we reach the Winnebagoes, we find a strange twist in the series of legends, or a missing link in the pattern. This northern tribe informs us that the "Twins" are not the sons of the "Great Sun" but nephews of the "Morning Star."

THUS the Amerind scholar suddenly bumps into one of those tantalizing possibilities which haunt Amerind legend. He finds himself turning over in amazement the realization that the transit of Venus across the face of the sun always occurs in pairs of eight years apart, after which it skips a period of over a century. And the astounded investigator, who has been up to now completely intrigued in the story and the individuality of this entertaining pair, finds himself wondering if they are the last flash of a lost astronomical knowledge, or the only remaining part of some momentous history.

Nor are they exclusive to the Americas. Norse and Finnish legend will recognize the "Twins," even to the mischief of the younger brother and his totemistic mark. In Egypt, we are suddenly remembering the story of Osiris, Lord of the Nile, of The Dawn and of learning and his wicked counterpart and brother Seth, who once more was of the Wolf or Dog mask. It is also interesting in this connection to remember that Osiris was the father of Horus by his wife Isis (the Moon), and that Horus was often represented as a pair, or identical twins. Furthermore, it will be recalled that Osiris who was crowned by a serpent, was said to have been the first culture-hero to conquer and civilize Egypt, bringing with him learning, soil-cultivation, laws and letters long before the land was overthrown by his brother of the wolf-head—Set, the destroyer.

Nor are these the only points of similarity, for the sons of Osiris are the Horus Kings who made a double invasion and set up a double kingdom with two capitol cities. These figures are upon the fringe of history. One cannot doubt their actuality although they have no certain dates.

De Prorok gives an interesting account of what would seem to be a "Twins" festival, although his lack of understanding of the symbolism which he is witnessing makes the description rather hazy. However, he describes an African festival upon the oasis of Siwa where a strange drunken orgy seems to have taken place, carried out with all the passions of the negro and curiously mingled with a Christian holiday of some kind. Yet the setting of the orgy is the ancient capitol of the Ammonian Kings were rotting quays run out into dry waterways and shrunken salt lakes. Below this strange city are vast underground galleries where he reports seeing drawings of ancient Egyptian ocean-going vessels under full sail. A strange sight in the Sahara! It has been fully three thousand years since such vessels might have passed over these sands, since even in the days of Ancient Rome the land was similar in climate to its present state. We know that Cambyses [1] and his army of fifty thousand on his way to raid and plunder the city of the Ammonian Kings,[2] perished miserably in the desert, choking in the blinding fury of a desert sand-storm. How long ago then did these ships sail over the Sahara? If we knew that, we could guess the age of this strange orgy whose significance was completely lost upon this otherwise intelligent and interesting observer.

CARNOCHAN also has a strange tale to tell of Africa. He was a physician in search of new medical secrets, who succeeded in being initiated into a strange secret sect of Africa known as "The Empire of the Snakes." The most unusual parts of his experience are undoubtedly the fact that scars known as "Changa scars" marked the initiate. One cannot help but note the closeness of this word to the famous Atlantic name of Pan. Furthermore, the birth of twins was hailed as a great event, and the leader of the sect must be one

[1] *Lost in a sandstorm at Oasis of Khargeh 525 B.C.*

[2] *Or "Kings of Ammon." Here was located the altar of Jupiter-Ammon.*

of a pair of twins. At these twin births it was the duty of the head of the women's society to be present. Thus the sign of an ancient matriarchy among the people. What similar influence has entered from the Atlantic upon three such dissimilar races as the Indian, the Norse and the Negro that they should have such points in common?

Think, with what a breathless sense of awe we would grasp the opportunity, if by some strange reversal of the time factor, we should be allowed for the space of two hours to pass through the portals of ten thousand years and behold once more the masked dances of the early Pelasgians and those of rising Egypt—the rituals which must have so long preceded the partly-chanted dramas of Classic Greece!

When the spectator of an American Indian dance has stopped viewing the spectacle before him as a fantastic pageant to be viewed in the spirit of a lark, he has begun to scent the bait of archaeology. When he continues to view the dances of various tribes in spite of the discomforts of rain, mud, and precarious perches on rickety roofs of century-old pueblos, with the dawning suspicion that this pageant is closer to the ancient festivals in honor of Horus, Thor, Odin or Osiris than those vague legends in his schoolbooks, he is nibbling at the bait. But when at last, a connoisseur of Amerind art, he delves into musty volumes, and studies the paintings from the walls of recently-exhumed temples, in an attempt to identify these figures, then he is hopelessly enslaved. The trap has sprung.

REFERENCES

Erna Ferguson—Dancing Gods
Cushing—Folk Tales of the Zuni.
H. B. Wright—Long-ago Told. (Papago legends.)
Moret—From Tribe to Empire (Egypt).
Dr. Flinders Petrie—(authority upon Egyptian archaeology.)
Carnachan—Empire of the Snakes.
De Prorok—Digging for Lost African Gods.
De Prorok—The Mysterious Sahara.

★ THE GREAT VALUE OF PETROLEUM ★

MOST of us know that gasoline is made from petroleum, but relatively few have any idea of all the other known and used substances which are derived from the oil of the oil wells. When oil first emerges from the wells it is a black, unusable substance. By chemical treatment and distillation, the products emerge.

In the petroleum distillation, the low boiling compounds come off first. For an example, if we heat a mixture of ether and water, the ether boils at a lower temperature, similarly, in petroleum heating the first to boil off is ligroin or commonly, benzine. This material is used in many industries, especially cleaning and dyeing. In this mixture which comes off, we find in addition to these two, naptha and rhigoline. Both of these are well known and much used.

The next material to boil off is gasoline. The temperature at which this occurs is between ninety and two hundred ten degrees. We all know the tremendous importance of this product. At this point, it is easy to see that gasolines of various commercial types differ because of the great temperature range in which the material comes off. It is also easily seen why gasoline is dangerous to expose to the air or to come near with a lighted match. Its inflammability is as legend as that of both benzine and naptha.

As higher temperatures are applied, kerosene famous for lamp-lighting ability is delivered. It is no wonder that our commercial petroleum industry has gone abroad to light lamps in many lands. The material boiling off after kerosene is high grade fuel oil and it may be "cracked" to form more gasoline. Fuel oils and more gasoline may be derived from these if they are cracked. The process of cracking is quite complicated but very important. Terrific pressures and temperatures up to one thousand degrees are applied. If the material is then distilled, or boiled, much gasoline comes off. Since this is most used, this process is worthy of the enormous expenses entailed in building the industrial plants.

In the original material which we were boiling we find instead of our amber colored original mixture a black residue. This material varies depending on the source. If the oil is from the Appalachians, called paraffin-base oil, we can get a mixture of fuel oils, solid wax, and petrolatum or vaseline. It might be stated that Mother Nature herself can and does get the wax out of petroleum and it is known as earthwax or ozokerite. Widely distributed and plentiful, it is used as uresin, a substitute for beeswax.

If the oil is of Texan or Californian origin it is very likely to leave a residue of heavy greases in the original container. We find use for this in the process of fixing and building our streets, although cement is being used more and more. One barrel of petroleum contains forty-two gallons, and the value of this is astonishing.

Petroleum, then, gives us vaseline, naptha, benzine, ligroin, kerosene, gasoline, fuel oil, asphalt, rhigoline, wax, beeswax, lubricating oils: a strange agglomeration of products ranging from a medicant to a macadamizer.

The United States produces much more than fifty percent of all the world's petroleum. It must be confessed however, that chemists have found new ways to produce oil, one of these being from the bituminous coal produced in all parts of the world. The whole story of this amazing substance has not been discovered but what has been is certainly amazing.

T. Borr.

Meet the Authors

EMIL PETAJA

IN the early part of my existence, I looked around me at blue Western Montana skies above evergreens whispering in a gentle April breeze; then up at the wickedly winking Evening Star, and quoth: "Venus, what have you got that we ain't got?"

Later on, somewhere in the wilds of my early teens, I discovered science fiction. *I found out!*

I did a lot of swimming, sans suit, in the ol' swimming hole under the big brown covered bridge up the river. I did a lot of roaming around the green hills, listening to the voices of nature, and working up a healthy imagination.

I scrambled through Wells, Verne, Poe, Burroughs, and Lovecraft, and came out Haggard.

So I started to write. I wrote every kind of trash. Poems, fables, and even a long involved novel in the vein of the indomitable "Dracula." These early efforts I furtively hid away in a locked chest, for fear somebody might read them and discover how bad they were.

High school behind me, I wrote some more. But you can't eat rejection slips. So I sweated in a department store basement for $9 a week, behind a rip saw in a large lumber mill, and behind a typewriter in Montana State University's clerical division.

But two years later, the little tendrils I'd shot out plantwise, in the form of letters to fellow science fiction fans and writers, began to tug me away from my studies. "Travel a bit!" invisible voices urged me. "See what is over yon hill!"

So I went to Seattle. I met a few artists and writers. More than ever I longed to write. I trekked to San Francisco. It ignored me. Los Angeles.

I liked the balmy weather and palmy scenery, and guessed I'd stay a while. I found a job. I worked out in Hollywood, at the Technicolor Corp., for quite a while.

Working and looking around kept me so busy I didn't have much time to vent my creative urges, although they burst out now and then. The most ambitious item was a long narrative poem. I doubt that any of the publishers who saw it got past the second page.

Things went along smoothly for a while. Then Fate struck!

Flat on my back in the hospital for weeks, I brooded and cogitated. "So you're the mug who wanted to be a writer!" I bawled me out. "Well, why don't you *write?*"

Grim as hell, I rented a pint-sized attic apartment, barred the door against bill collectors and the well-known wolf, yanked out my trusty, dusty typewriter, and began to bang away.

Weeks I banged away. Months I banged. But the magazine editors persisted in giving me the bird. They said I stank, and in no uncertain terms.

What'd I do? I fumigated the apartment, donned a clothes-pin, and gritted my teeth, and banged some more.

Came that unforgettable Monday after that unforgettable Friday the Thirteenth, on which day Mr. Julius Schwartz—an agent intrepid enough to handle my mss.—received the check for my first s.f. story sale. From *Amazing!* RAP had liked "Time Will Tell!"

Sure, I'd sold a few sonnets and such, and had stories in the fan mags—but, *Amazing!*

So now I'm a brilliant success? My name is synonymous with "sterling" with every s.f. fan? The rest is history?

Alas, no. The rest is mystery.

I'm still banging away. Wrestling with *plots*, biting my fingernails to the elbow with *suspense*.

What's that? Another story sold? 'S'*Amazing!*

(Editor's note: You will find Emil Petaja's third story in our pages on page 116 and we think you will enjoy it as much as we did. We hope that Mr. Petaja continues to "bang away" and we think he'll continue to "sell" if he does. Personally, we were very much surprised to learn that his first sale was to us.)

DISCUSSIONS

AMAZING STORIES will publish in each issue a selection of letters from readers. Everybody is welcome to contribute. Bouquets and brickbats will have an equal chance. Inter-reader correspondence and controversy will be encouraged through this department. Get in with the gang and have your say.

DISCUSSIONS OR NOT?

Sirs:

Although I admire the fiction you publish, and the general excellence of your magazine, there is one feature that is quite misleading. Discussions, says the dictionary, are arguments for and against; reasoning upon; debating. Therefore, you ought to change the title of this department to "Reader-Analysis Of Story Position." Most of your letters simply list the stories in the order each reader thinks they rank.

VERY interesting!

You have the makings of a damned fine department, if you'd only use a little sense in selecting letters to appear in it.

How about it, editor "Rap"? You do a swell job in your "Observatory." Surely you can make this department just as interesting!

ROBERT MASON,
Findlay, Oklahoma.

Well, your editor certainly takes a punch in the jaw here, but he isn't going to duck it. We'll take the whole blame, and we'll step right out and do something about it. First, we'll put some of the blame (now that it's ours to do with as we please) on the readers. From now on, you "discussionists," let's have more controversial letters. All of you who have something interesting to say will get first preference in this column. And if the "argufying" gets hot and heavy, we won't complain. We won't pull our punches either!—ED.

BOY, IS SHE CONVINCED!

Sirs:

"The New Adam" is the very best story I have ever seen by any modern writer. With a little lengthening out, a little more dramatization, it would equal anything Shakespeare ever wrote.

It was entirely too good to be *all* imagination. Mr. Weinbaum was either writing about himself, or he was chosen by someone whom he knew to be a forerunner of the New Race to come, or which is here already.

There is no absurdity in saying that Edmond Hall had two minds. We all have two halves to our brain, two eyes, two ears, hands, etc. If we can see only one side of a question which we think is right, and everything else is wrong, we are using only half of our reasoning powers.

I regard the coming of men like Edmond as the inevitable result of our modern way of life, and of the progress of science.

MRS. J. ELROD,
Kelso, Washington.

The late Mr. Weinbaum would no doubt have been very pleased to know how highly you think of his story, Mrs. Elrod. Stanley Weinbaum was a great writer, and his death was a blow to us, personally, as a fellow writer and editor and a reader of science fiction. However, we can picture him denying the position as equal to Shakespeare. Your editor thinks he would have been one of America's greats, had he lived, however.

We happen to know Weinbaum did not write the story either because he himself was a member of the New Race or because he knew a member. He was, perhaps, "looking forward" but only in the sense that all science fiction writers look forward. His story was great because he put his heart into it. He wrote this one because he loved to write well—and he once told us that he never wrote this story for publication. After his death, we fulfilled a mental promise to publish it.

As to your remark about seeing only one side of a question, we're convinced that a human being can be narrow in vision with only half a mind. And mental discussion certainly does not need two minds. We do agree, however, that very few people use what they do have in the way of mental and reasoning equipment.

The New Race, we feel, is still many thousands of years unborn.—ED.

IN DEFENSE OF "JUGGY"

Sirs:

While perusing the latest AMAZING STORIES QUARTERLY, I ran across a letter you printed which was written by one Gene Hunter. In it he stated that Juggernaut Jones is corny and reviled him with other epithets. I resent that!

I say right now to Hunter in particular and to any other reading this that Juggernaut Jones is the funniest character in science fiction; he is twice as funny as Lefty Feep (a character in our sister magazine, *Fantastic Adventures*, every month.—ED.); he is many many times funnier than any other guy in s-f or fantasy. Put that in your pipe and smoke it!

GEORGE RICHARDSON, JR.,
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We're inclined to agree, partially, with you, George. Just last night we sat down while waiting for the wife to get our blue coupons on the table, and we read the latest Juggy story. And in five minutes we were chuckling aloud! Yes, Juggernaut Jones is funny, and we'll keep right on buying him; and we hope you keep on reading him! As for Lefty Feep, he's a monthly treat we wouldn't miss, Juggy or no Juggy! Which might be a hint to you too, which you'd appreciate once you've read him!—ED.

ROCKET TRAVEL IN THE FUTURE?

Sirs:

I am one of the many readers of your AMAZING STORIES and I get a kick out of all the stories. Maybe I've read too many of the stories, because I get into constant arguments over the fact that sometime in the future there will be rocket travel, say from the Earth to the Moon. I want to know, am I right or am I wrong? Please send me some facts so I can jam them down the throats of the unscientific lot I have to contend with. One of the fellows in my group found an AMAZING STORIES in my room and they have been plying me with all sorts of questions, for no other reason than to ridicule me.

VALDON LANG,
Naval Training Schools,
University of Wisconsin,
Madison, Wisconsin.

Although, in the first place, we are inclined to look down on persons who stoop to ridicule (everyone has a right to respect, no matter what his opinion), we can also refute these critics of yours with more than a "few" facts about interplanetary rocket travel.

The war has stopped operations in most cases, except in a military sense; but at least three well-organized groups have been working on rocket travel, and two of them on actual rocket ships. The American Interplanetary Society, with scientist G. Edward Pendray at the head, has plans for a theoretically workable space ship. The English Rocket Society has stated that given a million dollars, they will build a ship that can travel to the Moon. Down in New Mexico, an American scientist has experimented for years with model rockets (scientifically reported in the National Geographic). The Verien Für Rhaumschiffahrt, *Berlin, built both rocket ships and rocket cars. Fritz von Opel died in the explosion of a rocket-mobile. Another rocket, at first reported to have carried a man, but later this was admitted as a hoax, ascended to a height of seven miles before it exploded. An Italian aviation concern invented a rocket device which operated a plane in an auxiliary means, before the war. We cannot conjecture what developments in aviation rockets have come about since that time, and if we knew, we could say nothing about it, for obvious reasons. But you can be sure, one day we will fly to the Moon—and further!*—ED.

ANOTHER READER IN THE SAME BOAT!

Sirs:

Since the advent of science fiction, many of the things written about in the first stories are now commonplace. Am I right or wrong? So doesn't it follow that many of the things now being written of will, in the future, also be commonplace? I mean space-travel, robots, inter-world commerce, etc.

If I could only see your words in print saying you believe that they will! I'm surrounded by doubting Thomases here in this little town and they call me "daft" with one finger to their heads for reading "that science-fiction trash." Just name me a few things you know of that have appeared in stories that now are facts and I will be able to show them I'm not so daft.

One of the doubting T's is my wife. She doesn't even believe she'll see this in print.

JAMES MADDEN,
2 Wilson Place,
Mansfield, Mass.

A long time ago Jules Verne, one of the immortal authors of all time, wrote a story in which he "invented" a submarine, so cleverly and exactly that Holland, when he actually invented the sub, was unable to get a patent on it! This is perhaps the best example we can give you, but others are: television; radio; radio transmission of photos; rocket planes (see previous letter); the super tank; radio-controled airplanes and battleships; color photography; talking pictures; helicopters; vitamins; dehydrated food; U-235—we could go on for hours in the industrial and technical fields with inventions that have been described in the pages of magazines like AMAZING STORIES. *All of the above have appeared in* AMAZING STORIES. *By the way, have you, or your doubting Thomas friends, seen the advertisements many national firms are running today? Of the miracles that they plan to give to the public when the war is over? In plain words, "you ain't seen nothing yet!"*—ED.

L. TAYLOR HANSEN DEFENDS HIMSELF

Sirs: (Messrs. Malamud, Berkman and Rogovin.)

Although the editor of AMAZING STORIES defended my series of articles very ably, yet I must answer in person because I enjoyed your letter so thoroughly. You have a very real touch for satire, which is not a common ability. Therefore I am taking the keenest delight in crossing swords with you.

It is true that the symbol of the Swastika was once as world-wide as that of the Eagle. Furthermore, it was not only scattered over ancient Europe, the Americas and Egypt, but also the Mediterranean, the Indian Ocean, and Northern Africa. Nuttall, the well-known Central American archaeologist, who thought it a calendrical sign indicating a certain long epoch or passage of time, wrote the best treatise upon the subject and published it long before the word Nazi had been conceived.

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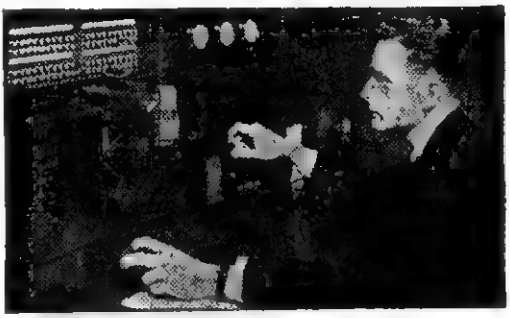

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[redacted]'s a big shortage of capable Radio Technicians and Operators. Many Technicians have their own full or part time Radio repair businesses. Broadcasting Stations, Aviation and Police Radio, and other communications branches are scrambling for trained Radio men.

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Your conclusions therefore 1) "that the ancient Egyptians, Aztecs, and Eskimos must have been fascists; 2) that Germany is populated by Aztecs, Indians, Eskimos and Egyptians; 3) it may have been a coincidence," were delightfully refreshing.

However, may I point out: 1) that the only possible conclusion you have offered, namely the last, is only true if the number of culture-traits which accompany a symbol do not exceed the law of averages; 2) that you forgot another possibility—namely that the symbol under discussion with its accompanying culture-traits might have migrated from a center, and therefore could have been ancestral to them all even though the physical type carrying it in that remote date has since been drowned in the subsequent migrations of other ancestors which we must all claim a few millenniums ago?

As for Berchtesgaden and its emblem, it is not the Indian male, but rather the female symbol. As one old Indian chuckled: "Him have a she-sign on sleeve!"

In conclusion, may I add that I am only pursuing truth and could not, even should I wish most fervently to do so, reach any hard and fast conclusions. However, I must say that your delightful fallacies were so amusing that the readers of the mag. must be indebted to you if they were only partially as tickled as the author to whom you were tossing the brickbats.

L. TAYLOR HANSEN,
(address withheld.)

Atta-boy, Hansen! They asked for it. And thanks for saying our own defense was "able." We wish we could speak with your authority!—ED.

ARE LETTERS UNBIASED?

Sirs:

I'm not going to comment on your magazine, except to say I read it every month and I enjoy it. It's well worth the two-bits!

But I am going to comment on your letters, and especially on the people who write them. I know some of them by personal contact, and more of them by correspondence, and still more by reputation and by—actually—notoriety.

Some years ago *Time* ran a very humorous—and to my mind, *true*—story about a convention of fans in New York. Lately *The New Yorker* ran another story—a hell of a long one—about the whole gamut of science fiction, from authors and stories to editors and fans. I've received a multitude of little "fan" magazines. I've attended meetings of fans.

Frankly, sir, any editor or writer who listens to their opinions is crazy! They are a bunch of biased pipsqueaks, adolescent minds, publicity-hunting morons!

And where do they vent all this? On the reader's columns of the various magazines! So, how can you get a correct picture of what the reading public actually thinks of science fiction by reading those "fan" letters? The impression the general public *does* get is howlingly obvious when

one reads *Time* and *The New Yorker* and other reportorial papers these pipsqueaks manage to crash by their antics! Something oughta be done!

I have a "black book" which contains the names of every one of these "fans" and I check it against each reader's column. Then I don't read the letters so checked. The result is I get a more accurate picture of public opinion.

Maybe you'd like a copy of the list?

A DISGUSTED EX-FAN.

P. S. I'm not signing my name because I have no wish to argue with these "junior deities."

Aren't you getting just a little overheated about a minority? Actually, those "leftist" groups you mention can muster not over 150 members, and we have an estimated reading public of half a million! And the publicity we have received through them, although certainly not to our liking, hasn't hurt us.

As to listening to them, we refer you to a statement we made in this column five years ago. Restated in different words: when the fans get on the bandwagon, we look for water in the gas! As for that list, maybe we have one too!—ED.

ABOUT LONG STORIES

Sirs:

I have just finished reading your April issue of AMAZING STORIES and it was the best issue of this magazine that I have ever read. "That Worlds May Live" came close to being the best story that I have ever read.

Before the April issue came out, I had been thinking of writing you a letter asking for longer stories. I think the lead story should not be less than 80 pages. You had enough space for seven short stories! Please keep up this policy in the future.

If the war gets too serious will you have to bring AMAZING STORIES and *Fantastic Adventures* down to about 120 pages?

JAMES ANDERSON,
Morrisonville, Illinois.

We'll have plenty of long stories in the future. Also, we have no intention of cutting down to 120 pages. Naturally, paper cuts have come, but not to that extent. We will continue to give you all the war allows us to give.

Although we deleted the personal portion of your letter, we'll answer one of your questions. If your dealer does not carry our magazines, place an order with him, and he will get it for you. Then you can buy it regularly from him.—ED.

WHERE IS ANTHONY GILMORE?

Sirs:

Ten issues ago, July 1942 to be exact, you published in AMAZING STORIES a swell story by Anthony Gilmore, namely "The Return of Hawk Carse." Judging from your Discussions column (and my own opinion) this wonderful story rated a sequel or a follow-up. Hawk Carse was very much sought after, but did we see him again? No.

Now for a juicy quote that followed one of the

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letters in the August issue:

"Hawk Carse is coming back to our pages soon. In fact, several times." Again I quote: ". . . nor is this the last of Hawk Carse. He will return several more times. Mr. Gilmore is hard at work on more adventures of the romantic, swashbuckling soldier of space."

I only wish to say in leaving that unless we get action on this Hawk Carse deal, we readers will organize a "Hawk Carse or Else Club."

H. MARVIN MCNEIL,
1917 So. 5th East,
Salt Lake City, Utah.

Mr. Gilmore is an inventor, besides being a writer. Since we haven't heard from him recently, we assume that the work which he reluctantly deserted at our plea for more Hawk Carse is once again demanding his full attention, due to the need for his work by our country. We are sure that Mr. Gilmore would not keep you waiting for more of his fine material, if he could do otherwise. We do know that he has another story partly finished. Sooner or later you will get it in these pages.—ED.

A YOUTHFUL READER

Sirs:

I was reading along peacefully on the Spring Quarterly when I happened to notice that somebody else than myself claims to be the youngest reader of S. F. This is not true. I am the youngest reader. I, pending March 12, am 13 years of age. I started reading S. F. in 1936 when I was six years old. I could read the newspaper when I was three years old.

DAVID W. DONALDSON,
(no address)

You certainly cut your "eye" teeth on science fiction, eh, David? Well, stick with us. We hope you're with us at sixty!—ED.

SATIRE OR "STINKER"?

Sirs:

I have been reading the magazine for 10 years now, and this is the first letter I've been moved to write. The last straw was that unparalleled stinker, "Bill Caldron Goes to the Future." Where in hell did you dig that up? If you just needed filler, fill the page with x's or leave it blank before printing another such mess of tripe. It was pitched to a 6-year-old level, and written apparently by a 5-year-old. Lord, I aired the house out! In the same issue with Weinbaum, too! Oh well. . . .

JOHN E. HERZOG,
897 LaFayette Ave.,
Buffalo, N. Y.

This story, perhaps to your amazement, actually was written by a writer almost as youthful as you say. It struck your editors, and many of our readers, as the cleverest, and yet most sincere, satire on science fiction that has ever been written. And the real laugh comes from the fact that it drew a lot of fan mail just as sincere! Several writers we know are going around with red faces,

because their "serious" efforts at producing "good" fiction resulted in placing several notches beneath a kid who had difficulty in spelling cat as evidenced by the story, which we published almost exactly as written! As for your editor, he now has quite a few writers right where he wants them—on the spot! Haw! Haw!—ED.

TROUBLE IN ALASKA!

Sirs:

If it had not been for a certain story in the February issue of AMAZING STORIES, you probably never would have heard from me. "The New Adam" by Stanley G. Weinbaum is the story I am complaining about. The other night I went to bed with the intentions of reading for only one hour. But what happens? I read for four hours.

That story was so intriguing, so fascinating, so enticing that I was not able to muster up enough courage at the end of an hour to close the book and go to sleep.

Consequently, the following morning it was all I could do to get out of bed and go to work. I went to work all right, but I was an hour late getting there. That was the first story that I have read in your magazine that ever did anything like that to me.

C. COURTNEY CECIL,
Box 440,
Anchorage, Alaska.

We only hope it wasn't a vital war job we kept you from! Even AMAZING STORIES *must not stand in the way of that!*—ED.

A PROBLEM IN PHYSICS

Sirs:

According to the law of conservation of energy "energy can be neither created nor destroyed." Suppose we take an ordinary watch spring, wind it up. By this process we have put kinetic energy into the spring, of course. We place the wound spring into a vat of strong acid so that it consumes the spring without allowing it to unwind. Has this, then, not destroyed the energy placed in the spring? Or perhaps the tension of the wound spring causes the molecules to move off faster, thus transferring the kinetic energy to heat energy, but I do not believe this probable. I would like to know the opinions of other readers concerning this theory.

A./S. WM. BELL,
23rd A. A. F. G. T. O.
Hamilton, Texas.

Okay, readers, how about answering him?—ED.

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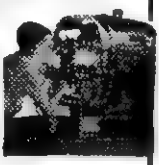

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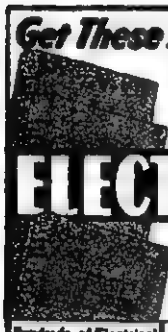

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★LUBRICANTS OF THE BODY★

ALL of us have had experience with mucous. Some of us have thought it disgusting, while others have considered it a nuisance. We have spit it up, we have blown it out of our noses without regard to its importance. The mucous of the body, and it is found everywhere, is the lubricating agent which keeps everything running smoothly, which permits freedom of motion of various organs and is a medium of transfer of particulate material.

When we eat, the food enters the esophagus after leaving the mouth. Some of the food is not so soft and with nothing to protect the lining of the passages, the walls of the passage would be ripped away. In our mouths, however, there are large glands which excrete this substance, mucous and it fills up the nooks and crannies of the food particles as well as covering up their entire surface. The result is that there is little friction between the rough edges and the lining of the wall and so no chance tearing will take place. For double protection, the lining of the passages through which the food passes is also bathed in this substance.

It is a fact that we all breathe in particles other than pure air. Somehow the body must rid itself of these particles and the task is far too difficult and painstaking, if not imposible for us to do consciously. Thusly, the body must do it itself. Once again the lubricant is of great importance. There is a constant outpouring of the material by cells in the respiratory tract and the particles float on it. Small hairs in the respiratory tract beat this fluid and its cargo up the pharynx toward the nasal passages. The result is the continuous clearing of the respiratory tract by this amazingly clever device. But this is not all the mucous does.

When waste materials are to be excreted, care must be taken by the body that the mineral content does not rip the wall. For this reason, a terrific quantity of the cells which secrete the mucous are found in the colon.

It must be stated that the secretions in the mouth, although mucous are not completely mucous, there being an enzyme also present. This fact does not obscure the importance of the mucous.

One more type of secretion for lubrication must be mentioned and that is the secretion of the sebaceous glands. These are in the skin and have the important function of keeping the skin well oiled. Hot days often do much harm to the skin of people whose sebaceous glands, or oil glands do not work too well. They are exhorted to use artificial lubricants and with good cause. Even in cold weather we must take care this oil does not dry up. Chapped hands or burnt skins are the results. We can then see how important these agents are and hence-forth have greater appreciation of their functions.

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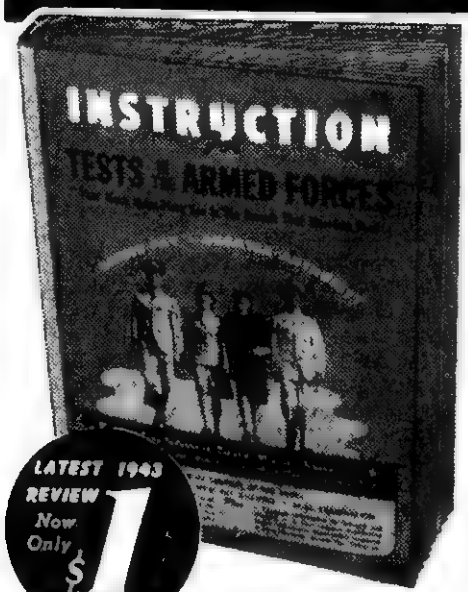

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STORIES of the STARS

By MORRIS J. STEELE

The Great Nebula In Orion

This nebula is one of the most magnificent telescopic objects in the heavens, yet it is more than 600 light years distant!

(See back cover)

THE constellation of Orion is perhaps the best known of all constellations to the layman. It is particularly conspicuous during the evening hours of the late winter months. It lies southeast of Taurus, and directly across the equator between the fifth and sixth hours of right ascension.

This region is the finest part of the whole sky for observation with a telescope.

There are many legends concerning Orion, but they are varied and conflicting in details. However, all of them picture Orion as a mighty hunter, a giant of a man who stands with a club firmly grasped in his right hand and the skin of a lion, slain by himself, in the other.

Orion is known as "The Warrior," but ironically, he was killed by a woman. He was the son of Hyrieus (or Poseidon). He was a mighty man, of great beauty and gigantic strength. Eos, the dawn goddess, loved him, but when she carried him off to Delos, Artemis slew him with her arrows. According to some legends, Artemis herself loved him, and was deceived by the angry Apollo into shooting him by mistake.

After his death he was changed into the constellation. When it rose early it was a sign of summer; when late, of winter and stormy weather; and when it rose at midnight, it heralded the season of vintage.

There are two stars of the first magnitude in Orion. One of them is the white star, Rigel; the other is the red giant, Betelgeuse. Rigel is in the lower part of the constellation. It is located approximately 8° south of the equator. The star itself is probably 500 light years distant, and is visible as a bright star by reason of its 10,000 times the luminosity of our own sun.

Betelgeuse is 20° northeast of Rigel, and is less than half the distance away. It is only one-tenth as bright. However, it is a tremendous star, being 27 million times as great as the sun. This makes it one of the most gigantic of all stars.

Orion's "belt" is a row of three stars of the second magnitude, running in a line drawn from southeast to northwest. Below this is a row of three fainter stars lying almost parallel to an hour circle, which constitute Orion's sword.

It is the central of these three stars which is the great Nebula in Orion. It appears to be a bit fuzzy, as though seen through a mist. Viewed with a large telescope, it is one of the most awe-inspiring sights in the heavens.

Unlike the so-called Great Nebula in Andromeda, this nebula is actually what it is called. It is composed of faintly luminous masses of gas of enormous volume. J. C. Kapteyn says it is more than 600 light years away, and, since it covers more than a square degree in the sky, its diameter is approximately 10 light years. This gives us a diameter of 700,000 times the distance from the sun to the earth (the distance to the sun is 93 million miles). Such a vast object is almost beyond comprehension.

Artist Frank R. Paul has pictured for us a very accurate scene on a planet of the system of Rigel. From here, the nebula would look very much as he has painted it, with colors almost beyond description.

In depicting this nebula, artist Paul has also pictured the type of life he imagines might exist on such a mighty world as could be a part of the System of Rigel.

He shows us giant lizards, populating a grim, savage, youthful world. He shows us one of the monsters in the grip of a giant clam. In the air, giant pterodactyls fly about, ready to descend like vultures on the lizard-giant which falls prey to the clams and dies, unable to extricate itself.

Science does not know much about the nature of, or the reason for these giant nebulae. It seems that they are tenuous clouds of gases which sweep slowly in a vast whirlpool. The clouds are so tenuous that if we were situated at the middle of the Great Nebula, we would be unaware of its presence except perhaps for a faint misty glow in the sky, which might obscure our vision of the stars somewhat. It moves so slowly that hundreds of years of observations show no appreciable movement.

The theory is that these giant clouds of gas eventually condense into matter which will ultimately form a new sun. However, there have been many arguments against this theory, and the real nature of the nebula is still a matter for conjecture.

As far as we are concerned it will never be anything else than a wonderful spectacle.

★ ABOUT SATURN ★

SATURN, the planet which baffled the ancient thinkers, is now pretty well diagnosed. That is, its features, peculiarities, and so forth have, through years of astronomical work, become known to man. It was Galileo, back in the 17th century, who originally began an earnest and successful observation of this planet. However, working with crude instruments, he was unable to obtain an accurate picture of Saturn and its rings: he thought that the planet consisted of one large spherical mass with two small spherical masses on each side. Even though this conclusion was not very accurate, it was a great step forward. Then Huygens, about fifty years later, working with more elaborate instruments, was able to demonstrate the definite shape of the rings surrounding Saturn. These two men started the investigation and astronomers since then have definitely shown the exact shape and approximate size of the rings.

One of the peculiarities of these rings is their somewhat extreme thinness. That is, the outer ring has a diameter of 170,000 miles, whereas, its thickness is less than 10 miles. This set up is equivalent to having a circular board twenty feet in diameter and with a thickness of barely .001 feet.

The diameter of Saturn through the equator is 74,000 miles, whereas its diameter through the poles is 66,300 miles. These calculations show that Saturn is shaped somewhat like the earth, but, of course, it is much larger. However, Saturn has a very low density, only .715 times that of water. Therefore, its material composition is rather interesting. One noted astronomer believes that the inner core of rock and iron of 28,000 miles diameter is surrounded by ice 6,000 miles thick, and then there is a thick atmosphere 16,000 miles deep. This atmosphere consists of gases near the top and the remainder is liquid.

Saturn travels about the sun once every 29.5 years. This long period of time is due to the fact that it is about 887 million miles from the sun. This distance varies at several points in the orbit. Its own period of rotation about its axis is approximately ten and one-half hours. This value is not exact, however, because of the obstacles incurred in measuring the rotation.

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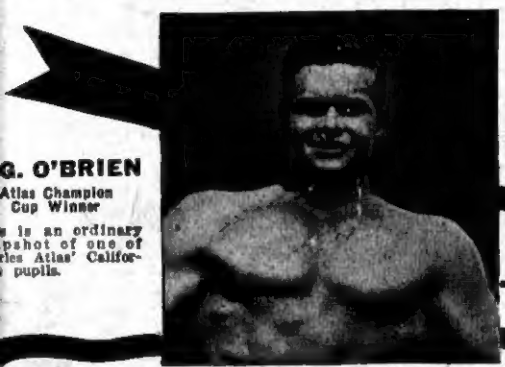

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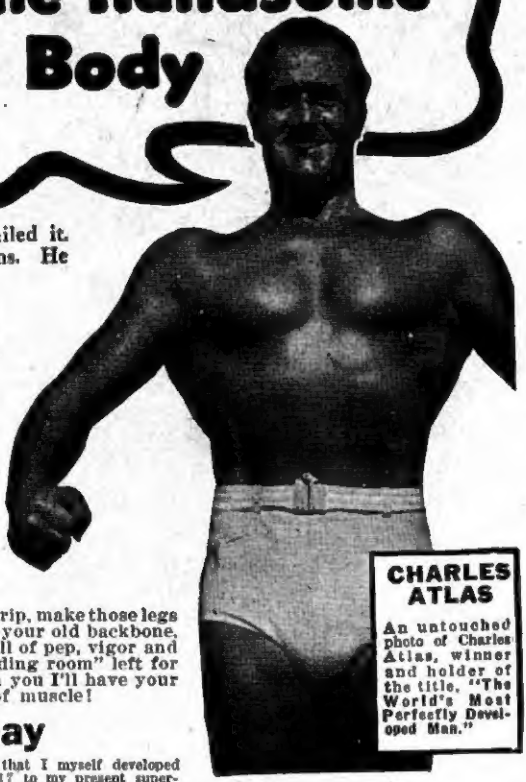

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STORIES OF THE STARS

The great nebula of Orion is 600 light years away and 10 light years in diameter. Our sun would be lost in its immensity. (Complete story on page 208.)